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Catalog ST 80 News · 2007

simatic hmi

Human Machine
Interface Systems

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Related catalogs

SIMATIC ST 70
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Human Machine Interface systems

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The products contained in this catalog are also contained in the electronic Catalog CA 01.
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The products and systems listed in this catalog are manufactured/distributed using a certified quality management system which complies with DIN EN ISO 9001 (Certified Registration No. 2613-05). The certificates are recognized in all IQNet countries.

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Notes on this Catalog:

- Catalog ST 80 News · 2007 is a supplement to Catalog ST 80 · 2006. It contains new products as well as updated technical and ordering data.
- Catalog ST 80 · 2006 remains valid.
- Discontinued products from the Catalog ST 80 · 2006 can be found in the appendix of this catalog.

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Siemens Automation and Drives. Welcome

More than 60,000 people aiming for the same goal: increasing your competitiveness. That's Siemens Automation and Drives.

We offer you a comprehensive portfolio for sustained success in your sector, whether you're talking automation engineering, drives or electrical installation systems. Totally Integrated Automation (TIA) and Totally Integrated Power (TIP) form the core of our offering. TIA and TIP are the basis of our integrated range of products and systems for the manufacturing and process industries as well as building automation. This portfolio is rounded off by innovative services over the entire life cycle of your plants.

Learn for yourself the potential our products and systems offer. And discover how you can permanently increase your productivity with us.

Your regional Siemens contact can provide more information. He or she will be glad to help.

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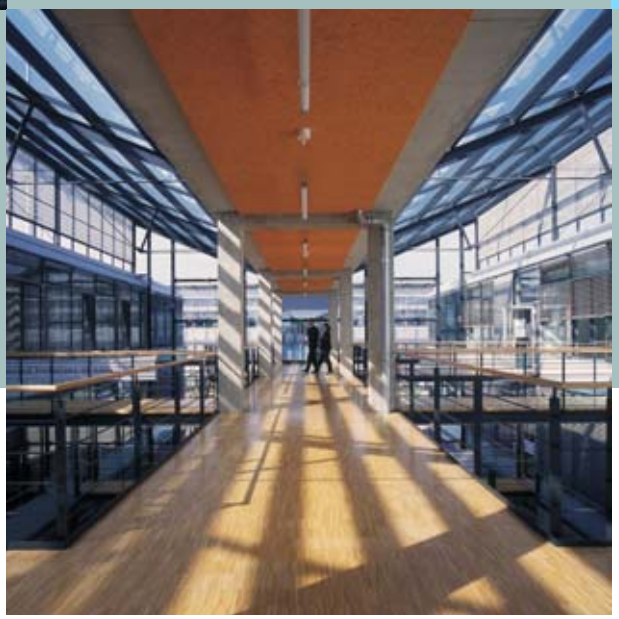

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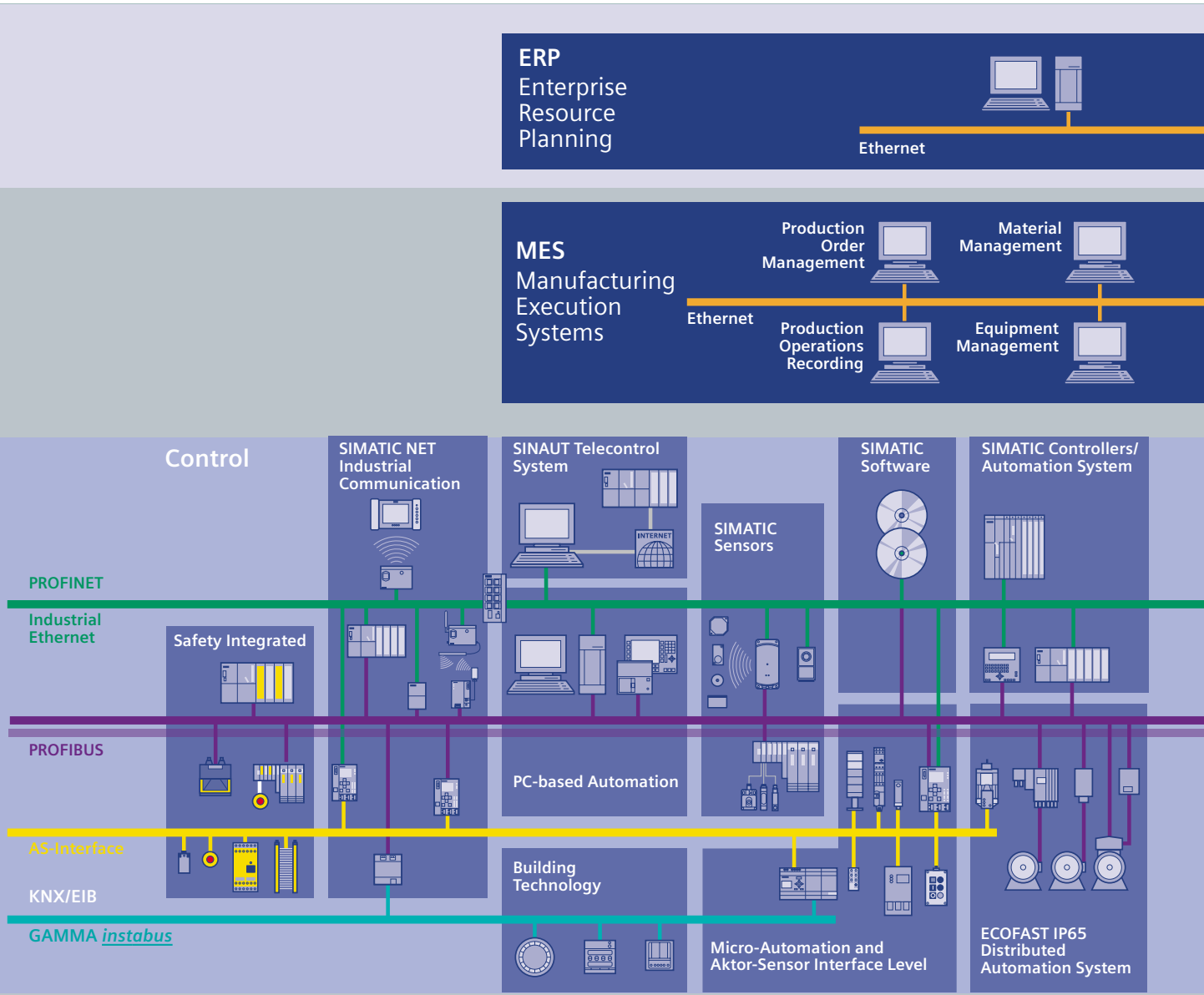
Sharpen your competitive edge. Totally Integrated Automation

With Totally Integrated Automation (TIA), Siemens is the only manufacturer to offer an integrated range of products and systems for automation in all sectors – from incoming goods to outgoing goods, from the field level through the production control level to connection with the corporate management level.

On the basis of TIA, we implement solutions that are perfectly tailored to your specific requirements and are characterized by a unique level of integration. This integration not only ensures significant reductions in interface costs but also guarantees the highest level of transparency across all levels.



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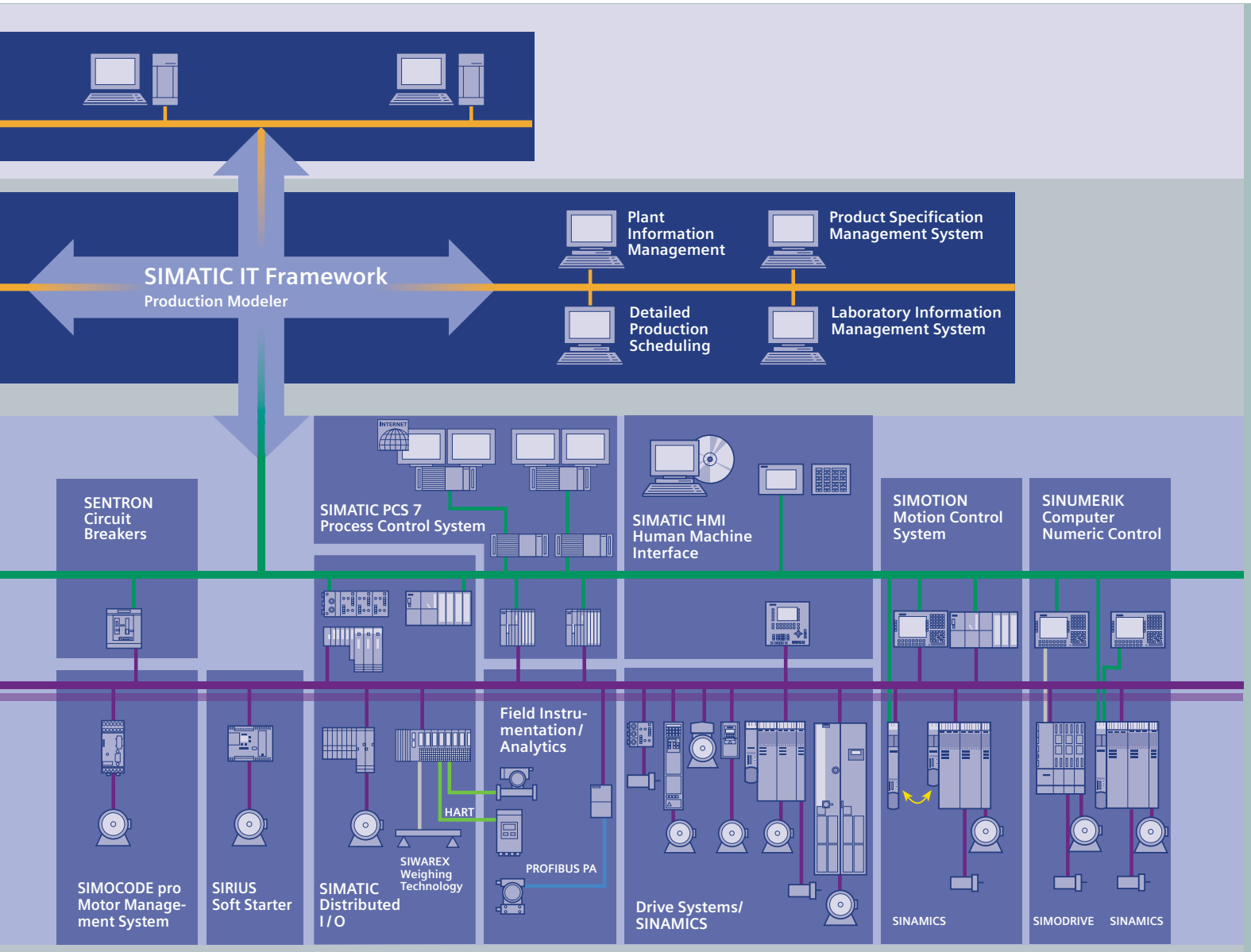
It goes without saying that you profit from Totally Integrated Automation during the entire life cycle of your plants – from the first planning steps, through operation, right up to modernization. Consistent integration in the further development of our products and systems guarantees a high degree of investment security here.

Totally Integrated Automation makes a crucial contribution towards optimizing everything that happens in the plant and thus creates the conditions for a significant increase in productivity.



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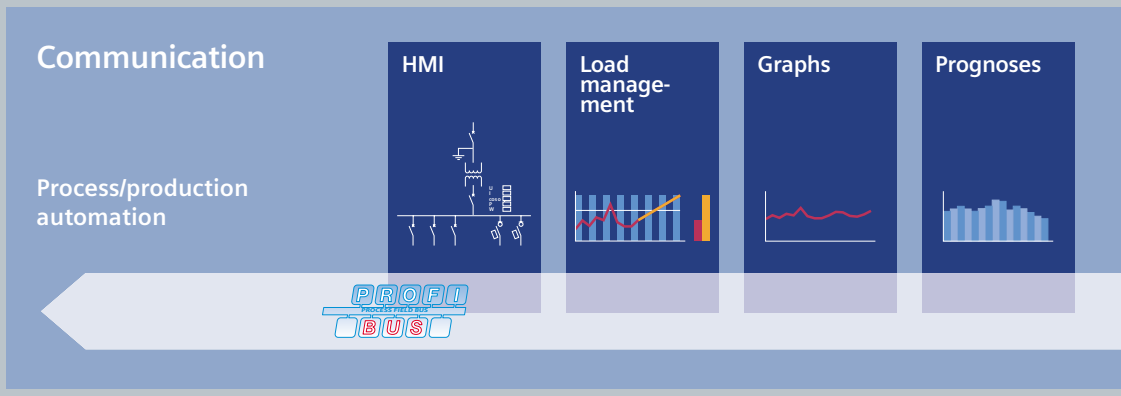
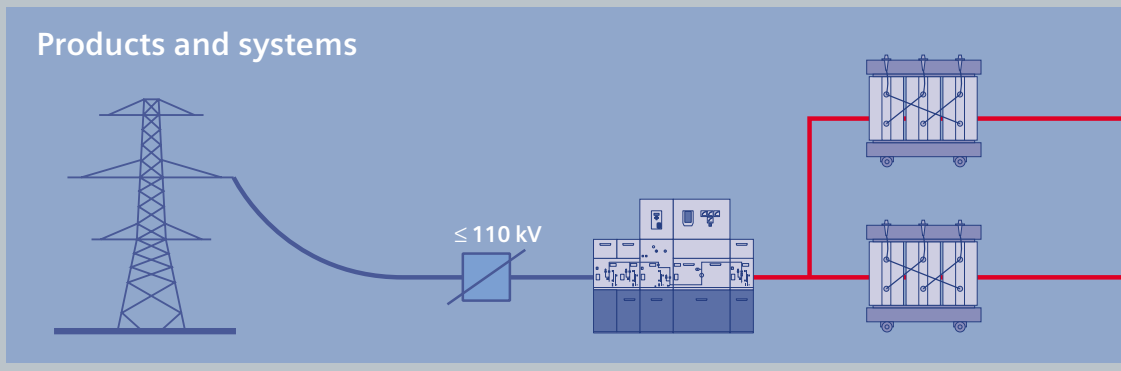
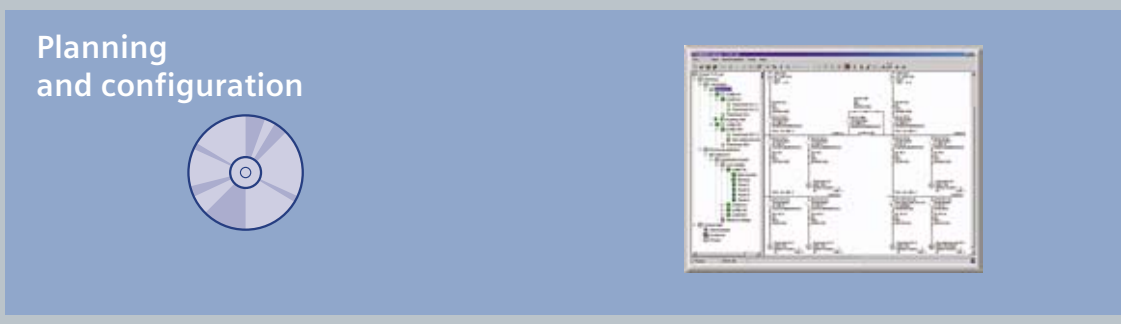
Integrated energy distribution from a single source. Totally Integrated Power

Totally Integrated Power (TIP) brings together all the components of electrical energy distribution into an integrated whole. Thus TIP provides the answer to growing market demands in the planning, construction and use of utility buildings and industrial buildings.

On the basis of TIP, we offer integrated solutions for energy distribution, from medium voltage to the power outlet. Totally Integrated Power is based here on integration in planning and configuring as well as on perfectly matched products and systems.







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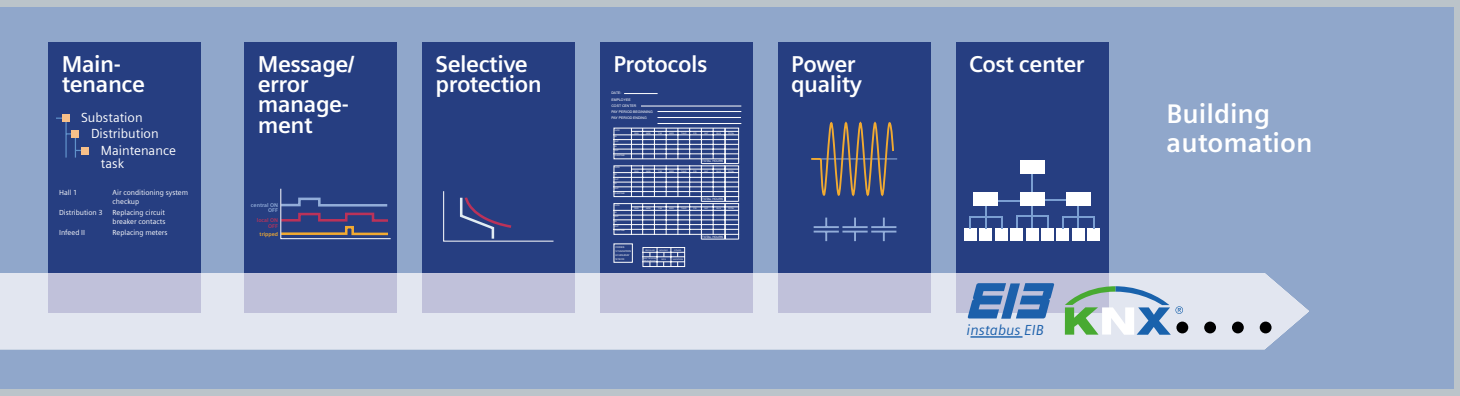
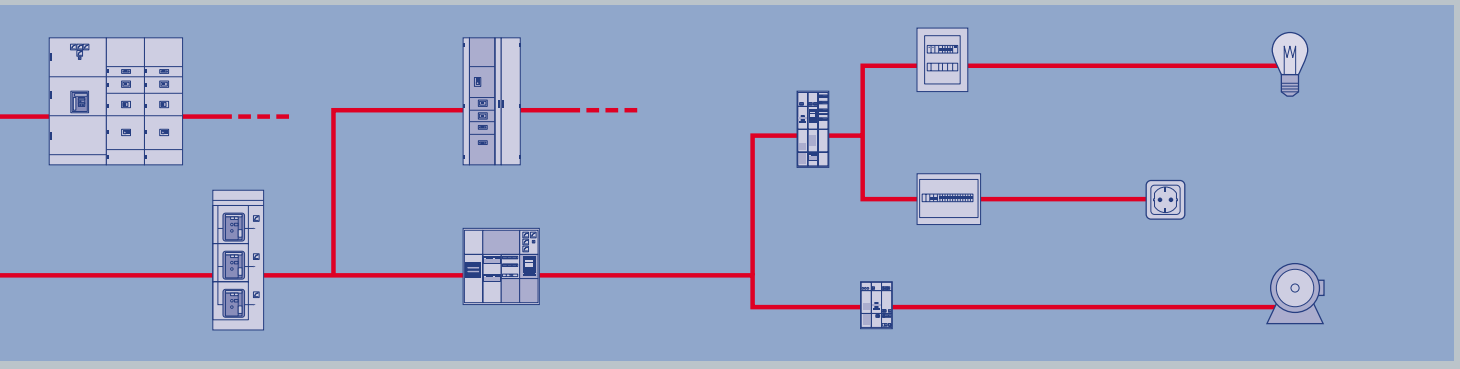
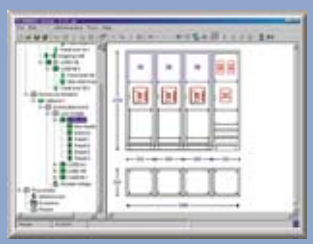
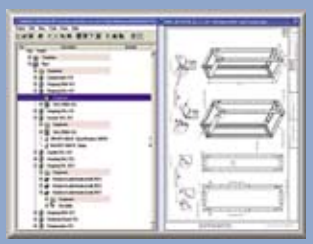
Totally Integrated Power offers communication and software modules for connecting the energy distribution systems to industrial automation and building automation. This enables the implementation of significant savings potential.









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Gain transparency and lower costs: SIMATIC HMI operator control and monitoring systems

The interface between human and machine – the human machine interface or HMI for short – connects the world of automation with the individual requirements of the operator. Operator control and monitoring is about managing the process, about optimizing machine and system operation, about availability and productivity.

Everything from a single source

With SIMATIC HMI, Siemens A&D offers a complete spectrum of innovative and low-cost products and systems for the multi-faceted tasks of operator control and monitoring: Ranging from operator panels and visualization software for operator control and monitoring at the machine through to SCADA systems for widely differing requirements in process visualization. Products are available which are specifically adapted to the needs of special industrial sectors, such as operator panels with stainless steel fronts especially designed for use in the food and beverages industry. Of course, individual, customer-specific requirements can also be implemented.

Perfectly equipped for integration in the world of automation

With their open, standardized interfaces in hardware and software, SIMATIC HMI products can be integrated at any time in the production and automation level as well as in the company management level. Connectability to almost every controller on the market as well as multiple language capability of the configuring and visualization software – including Asian ideographic languages, of course – facilitate operation worldwide.

Increased production transparency through Plant Intelligence

Plant Intelligence is based on the rational use of information to improve processes within the company. It is designed to lower plant costs, consolidate and improve quality, avoid wastage, utilize production facilities better and ultimately ensure greater efficiency and cost effectiveness within the company. WinCC provides the best requirements for achieving this since WinCC features an integrated Historian for acquiring important production data. Using intelligent functions and tools, these process data can be edited into information necessary for making decisions and can be made available throughout the company whenever and wherever it is required – for operators as well as production managers or anyone else within the company. Even the WinCC basic system provides a wealth of display and evaluation functions, such as the statistics function for the message and measured value logs.
WinCC options for IT & business integration make additional "smart" tools available for optimizing production using Plant Intelligence.

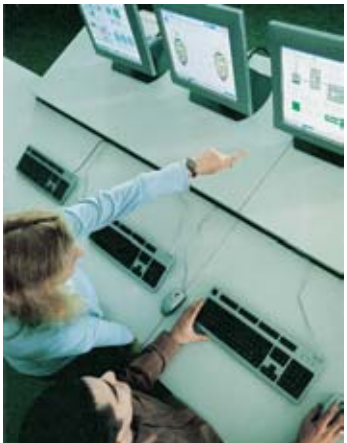
Integrated into the World Wide Web

SIMATIC HMI makes the Internet into a control desk – within a plant as well as in the worldwide network. Using the WinCC/Web Navigator, you can monitor and operate plants over the Internet or over the internal corporate intranet. Thin client solutions can be used to integrate rugged, local devices which simultaneously establish the connection between the automation level and the control center. And over a wireless LAN or cell phone connection, you can use mobile thin clients such as laptop computers, PDAs (personal digital assistants) or WebPads. In this way, process, service or management information can be made individually available to users. At the machine level, many control units support remote operation, e.g. as a link between the automation level and the control room through to service and diagnostics over the Internet.

With WinCC flexible, concepts with so-called Sm@rtClients and servers facilitate plant-wide access to variables and graphics, distributed operator stations as well as remote operation and diagnostics via the Internet – also in conjunction with SIMATIC Panels.

Traceability and simple validation

WinCC flexible and WinCC with "FDA options" provide a high degree of support to machine and plant manufacturers who must fulfill high quality requirements, both with respect to the products to be manufactured as well as to the manufacturing processes themselves. These options simplify plant validation enormously and thus provide the most convincing and comprehensive solution for the requirements of these sectors. They support the user in fulfilling high quality requirements asp specified by the FDA (Food and Drug Administration) 21 CFR Part 11 for the food, beverages and pharmaceutical industries.



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Increased plant availability

All operator panels and Panel PCs are designed for harsh industrial use. Redundant WinCC process visualization systems ensure a high degree of plant availability during normal operation. The ProAgent process diagnostics of SIMATIC HMI supports you effectively with error locating and elimination and significantly reduces downtimes.

More than just operator control and monitoring

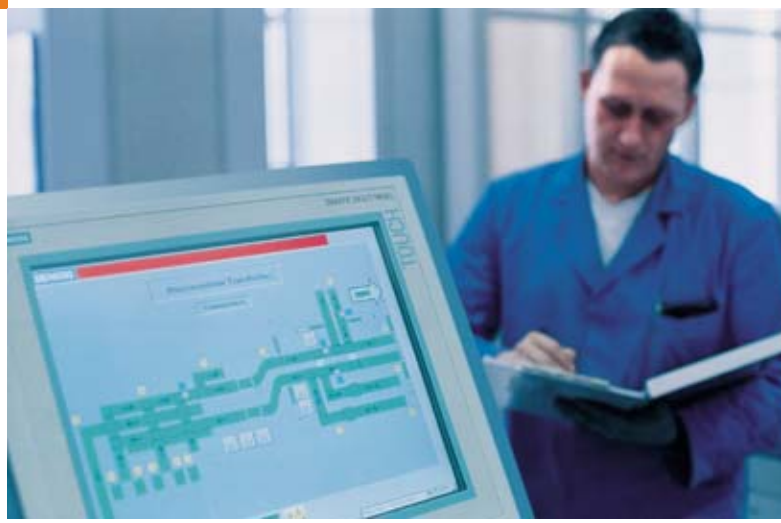
The Multi Panels under Windows CE combine the advantages of two worlds: On the one hand, the ruggedness of an operator panel and on the other hand the flexibility typical of a PC. Apart from classical operator control and monitoring, other automation functions such as control functions can execute simultaneously. And for PC-based automation, the SIMATIC Panel PCs are available as a compact automation platform – the embedded versions being especially compact and rugged as well as maintenance-free.

All the advantages of Totally Integrated Automation

With Totally Integrated Automation (TIA), Siemens is the only supplier who offers a system-wide, integrated product and system range for automating the complete production workflow. The distinguishing feature of TIA is that it is completely integrated. The reduced number of interfaces results in very clear structures. This reduces time and costs required for engineering the automation solution and increases the availability of the plant.

SIMATIC WinCC flexible, the system-wide engineering tool for the SIMATIC HMI operator panels, is part of TIA and uses the same database as STEP 7, the programming software for the SIMATIC Controllers. This saves input overhead and ensures data consistency at all times.

In conjunction with other SIMATIC components, SIMATIC HMI also supports system diagnostics and process diagnostics during normal operation. You can start STEP 7 diagnostics directly from WinCC for comprehensive error diagnostics from the circuit diagram through to the PLC program. And with SIMATIC ProAgent, process error diagnostic messages from the controller can be displayed on the operator panels or visualization systems – without any extra project costs for the HMI system and without additional diagnostic instruments.



A competent partner for automation solutions

With SIMATIC HMI, you not only get excellent products to suit your requirements, we will also support you with selecting a partner for your automation solution. In our worldwide network of Siemens Automation Solution Partners, you will find competent contact partners in your area who are always up-to-date with SIMATIC HMI technology. The Siemens-internal WinCC Competence Centers implement technology-specific products as well as customer and sector-specific solutions on the basis of WinCC. WinCC specialists are external system integrators who combine their WinCC expertise with their sector and technology know-how to create tailor-made, cost-effective solutions. Numerous products from our partners that perfectly interact with WinCC are available as WinCC Add-ons.

Investment protection is included

Our many years of experience in the automation engineering sector are to your advantage. The same applies to our global service network with its expert support. Further services, such as a software update service, training, ordering over the Internet, etc. round off what we have to offer.

SIMATIC HMI

The Human Machine Interface

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SIMATIC HMI
A whole world of operator control and monitoring

Process visualization

SIMATIC WinCC
The SCADA system for scalable process visualization to suit any requirement – from the single-user through to the redundant multi-user systems, as well as for plant operation and monitoring over the Internet. WinCC is also the ideal information hub for IT and business integration, with Plant Intelligence ensuring more transparency in the production process.

Operator control and monitoring at the machine

SIMATIC Push Button Panels
Input fields connected to the bus for easy, direct machine operation.

SIMATIC Micro Panels
Operator panels for small machines and specially designed for SIMATIC S7-200.

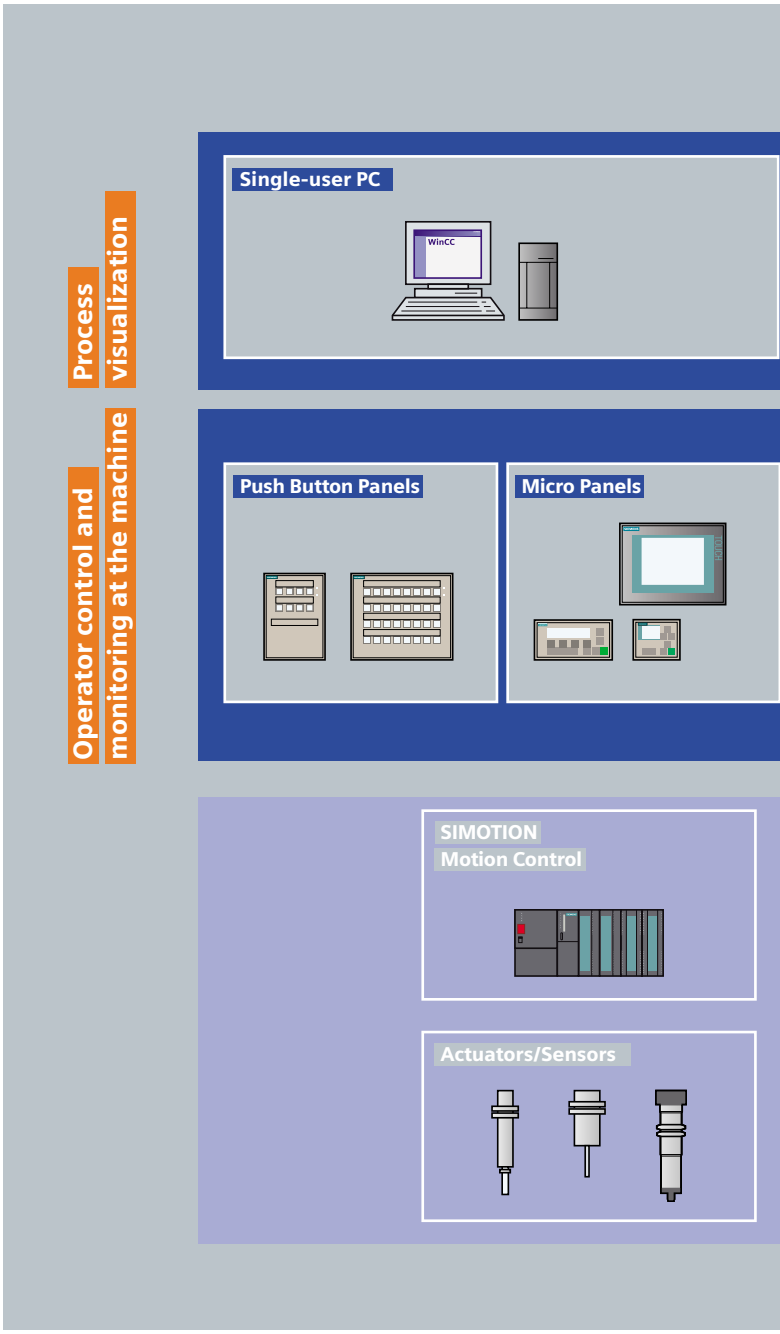
SIMATIC Mobile Panels
Mobile operator panels for direct operator control of the plant and machine from any location.

SIMATIC Panels
Compact and rugged operator panels for use directly at the machine – finely graded in performance and convenience and available as Operator Panels and Touch Panels.

SIMATIC Multi Panels
Multifunctional platforms that, in addition to visualization, also perform other automation tasks such as controlling.

SIMATIC Panel PC
Industrial platforms for PC visualization locally or for the many and varied automation tasks of PC-based automation. The new embedded version is especially compact and rugged as well as maintenance-free.

SIMATIC WinCC flexible
The innovative HMI software under Windows for all applications at the machine level and on the plant floor. The engineering software facilitates system-wide configuring of all SIMATIC HMI operator panels – from Micro Panels to on-site solutions with SIMATIC Panel PCs and local control rooms with standard PCs. WinCC flexible stands for the highest degree of configuring efficiency and features additional options for operation, service and diagnostics via the Web.



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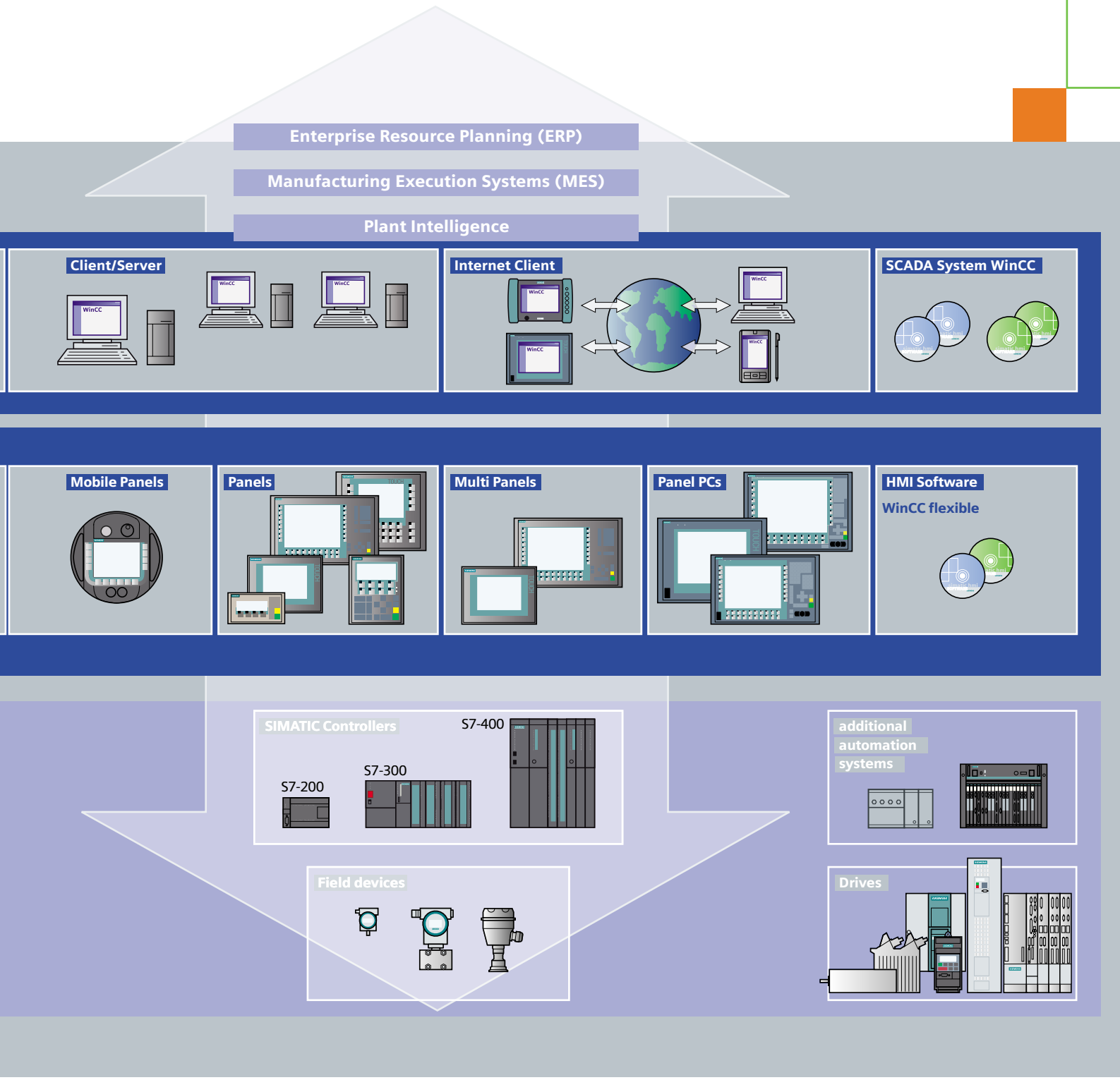

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SIMATIC HMI
The Human Machine Interface

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Operator Control and Monitoring Devices

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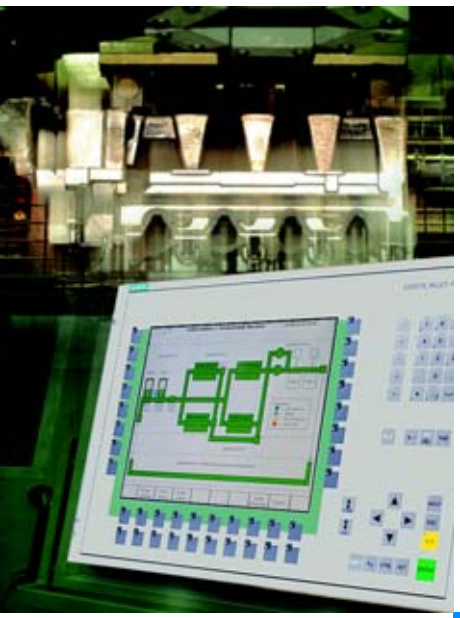

2/2 **Mobile Panels**
2/2 SIMATIC Mobile Panel 277

2/10 **Panels**
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2/28 Industrial USB Hub 4
2/29 Connecting cables

Connector
2/34 RS 485 bus connectors
2/35 IE FC RJ45 plug

SIMATIC Mobile Panel accessories
2/37 Connection boxes

2/39 Memory cards
2/40 Converters/adapters
2/41 Service packages
2/43 Protective covers
2/44 Cover foils
2/45 Backup battery, plug-in power supply, option pack for Mobile Panel

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SIMATIC Mobile Panel 277

Overview

- Mobile operator panel for direct operator control of the plant and machine from any point
- Supports optimized monitoring of the workpiece or process providing at the same time direct access and direct line of sight to the operator panel
- Flexible implementation thanks to hot swapping
- Pixel-graphics, brilliant color display with touch screen (analog/resistive)
- PROFIBUS or PROFINET communication
- Freely configurable and inscribable function keys (with LED)
- Two three-stage enabling buttons;
  Optional versions include:
  - STOP pushbutton
  - STOP pushbutton, handwheel, key-operated switch and illuminated pushbutton
- Communication is supported via a serial link, MPI/PROFIBUS or PROFINET
- Connection point recognition
- Fast system availability after plugging into the connection box
- Connected to the PLC and power supply via the connection box and the connecting cable

Benefits

- Hot swapping without interruption of the emergency stop circuit (with connection box variant "Plus") and without the occurrence of bus faults
- Fast and accurate setup as well as positioning
- Reliable operation with perfected safety concept (Safety Category 3 according to EN 954-1)
- Ergonomic, compact and light-weight
- Rugged for industrial use
- Integral component of Totally Integrated Automation (TIA):
- increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Graphics library available with off-the-shelf picture objects
- The data in the message buffer are retained even when the Mobile Panel is disconnected from the supply, without battery backup
- Can be used all over the world:
  - 32 languages can be configured (incl. Asian and Cyrillic character sets)
  - Up to 16 online languages can be directly switched over on the Mobile Panel
- Reduction of service and commissioning costs through:
  - Backup/restoration via a process interface or optionally via a standard multi-media card
  - Transfer of the configuration with automatic transfer recognition via all device interfaces
  - Long service life of the backlighting
- Simple engineering supported by comprehensive documentation on the SIMATIC HMI Manual Collection DVD

Application

Regardless of the industry or application, if mobility is required for the on-site control and monitoring of machines and plants, SIMATIC mobile panels offer some crucial advantages:
The machine operators or commissioning engineers are able to work exactly where they have the best view of the workpiece or process. Even for larger production facilities, complex or enclosed machines, long materials handling or production lines and conveyor systems, mobile operator panels allow fast and precise setting up and positioning during commissioning. They also ensure shorter downtimes during retooling, maintenance or repairs.

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Design

- Ergonomic and compact with different holding and gripping points (suitable for right-handed and left-handed personnel)
- Pixel-graphics, brilliant color display with touch screen (analog/resistive)
- Freely configurable and inscribable function keys (with LED)
- The front is resistant to various oils, greases and standard detergents
- Two three-stage enabling buttons
- Optional versions with
  - STOP pushbutton or
  - STOP pushbutton, handwheel, key-operated switch and illuminated pushbutton
  - The STOP pushbutton is secured specifically with a "protective collar".
    If the STOP pushbutton is looped into the Emergency Stop circuit, its function is equivalent to an Emergency Stop.
- Extremely imnpact-resistant due to twin-wall construction and rounded encosure
- Dust-proof and jet-proof casing with degree of protection IP65 on all sides
- Integrated serial, MPI and PROFIBUS interface (up to 12 Mbit/s)

or

- Integral Ethernet (PROFINET) interface (up to 100 Mbit/s)
- Slot for a standard Multi Media Card for configuration backup and restoring or for storing recipes
- Connection to the PLC via the rugged and reliable connection boxes with degree of protection IP65:
  - “Basic“ connection box: Enables the STOP pushbutton to be integrated into the safety circuit
  - "Plus" connection box: Enables the STOP pushbutton to be integrated into the safety circuit without interruption when disconnecting the device. If the Mobile Panel is disconnected during operation, the Emergency Stop circuit in the connection box Plus is automatically closed which prevents triggering of the Emergency Stop circuit.
- Fast system availability after plugging into the connection boxes
  - A renewed power up of mobile panels – after short-time isolation from the connection box – is avoided by using an optional rechargeable battery pack (rechargeable battery optional package).
- Detection of the connection point can be used to perform machine-specific HMI authorizations or actions depending on the selected connection point

Sophisticated safety concept

The two enabling buttons (acc. to EN 60204-1) with three switching steps each ensure the protection of personnel and machines in critical situations. They are built into into the rear handle.

The STOP pushbutton (acc. to EN 60204-1) is hard-wired and positively latches when pressed. It can be looped into the Emergency Stop circuit of a plant in which case it takes on the functionality of an Emergency Stop pushbutton, but is distinct with its gray color. This ensures that it cannot be mistaken for the Emergency Stop equipment. This is especially important when the Mobile Panel is not connected to the machine. SIMATIC Mobile Panels offer the option of making safety functions available on a mobile basis at any point of a machine or plant.

STOP pushbuttons and enabling buttons are implemented according to safety regulations with two circuits and comply with the requirements of Safety Category 3 according to EN 954-1.

Innovative connection concept

The Mobile Panel is simply plugged into the connection box wherever it is needed in the plant and is immediately ready for use. The connection box can be installed anywhere, even outside the control cabinet. It ensures fault-free plugging and unplugging during normal operation and, therefore, allows the operator-control location to be easily and safely changed when several connection points are available in a plant or machine. The location of a Mobile Panel can be clearly identified by setting an ID number on the connection box. This identifier permits the user to configure Mobile Panels in such a way that, for example, the user interface changes according to the connection point. The Mobile Panel establishes the connection to the controllers after being plugged into the connection boxes and following a short start-up period. An optional rechargeable battery pack can be used to speed up the Mobile Panel connection process (following brief disconnection from the connection box) still further.

Configuration options with emergency stop wiring

Panels with a STOP pushbutton can be integrated into the Emergency Stop circuit of a machine or plant via the connection box. When the STOP pushbutton on the Mobile Panel is pressed, the Emergency Stop function is activated. The STOP pushbutton on the Mobile Panel supplements but does not replace the Emergency Stop equipment installed on the machine according to EN 418. When the Mobile Panel is unplugged, "Plus" versions of the connection box automatically close the Emergency Stop circuit, thereby ensuring safe and fault-free changeover (swapping).

Connection at one point of the machine

When the "Basic" connection box variant is used, unplugging the Mobile Panel interrupts the Emergency Stop circuit and, therefore, triggers the Emergency Stop function. This configuration is, therefore, best suited for applications in which the Mobile Panel is connected to a fixed point on the machine.

Flexible connection at various points on a machine or in a plant

If a Mobile Panel with a STOP pushbutton is used in combination with a "Plus" connection box, a configuration is possible in which the Mobile Panel can be used flexibly and is also looped into the Emergency Stop circuit. The Emergency Stop circuit remains closed regardless of whether a Mobile Panel is plugged into a connection box or not. When the Mobile Panel is plugged in, the equipment is looped into the Emergency Stop circuit and when the STOP pushbutton is pressed, the circuit will be interrupted and the Emergency Stop function triggered. If the Mobile Panel is unplugged during operation, the Emergency Stop circuit is automatically closed in the “Plus“ connection box version.

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SIMATIC Mobile Panel 277

Function

- Input/output fields
  for displaying and changing process values
- Function keys
  for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on function keys. The function keys can also be used as PROFIBUS DP input peripherals or directly as PROFINET IO.
  The function keys can also be reconfigured as system keys. A frequently used function such as "Acknowledge alarm" can thus be applied to a function key.
- Additional command components
  such as handwheel, keyswitch and illuminated pushbutton can be connected to a variable or as a direct control over PROFIBUS DP input peripherals (DP direct keys) or PROFINET IO (direct keys).
- Buttons
  for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on buttons.
- Graphics
  can be used as symbols instead of text to "label" function keys or buttons. They can also be used as background displays (wallpaper).
  In the configuration software, a comprehensive library is available containing graphics and a wide variety of objects.
  All editors with an OLE interface can be used as graphics editors (such as PaintShop, Designer or CorelDraw).
- Vector graphics;
  simple geometric basic forms (e.g. lines, circles and rectangles) can be created direct in the configuring software
- Text fields
  for labeling function keys, process images and process values in any character size
- Curve displays and bars
  are used for the display of dynamic values in graphics-based format
- Display selection from the controller
  permits operator prompting from the controller
- Presentation of HTML documents with MS Pocket Internet Explorer
- Visual Basic Script, flexibility thanks to the implementation of new functions including linking to variables (comparison operations, loops, etc.)
- Language selection
  5 online languages, 32 configuration languages incl. Asian and Cyrillic character sets
  - Language-dependent texts and graphics
- User administration (security)
  - User-oriented access protection according to requirements of specific sectors
  - Authentication with user ID and password
  - User-group-specific rights
- Signaling system
  - Discrete alarms and analog alarms (limit value messages) as well as the ALARM_S message frame procedure for SIMATIC S7 and SIMOTION
  - Freely definable message classes (e.g., status/fault messages) for definition of acknowledgment response and display of message events
- Message buffer
  - Non-volatile, maintenance-free and battery-free message buffer. The messages are retained even when the Mobile Panel is disconnected.
- Recipe management
  - With additional data storage (on optional multi-media card)
  - Online/offline processing on the panel
  - Storage of recipe data in standard Windows format (CSV)
  - External processing using standard tools such as Excel and Access is possible
- Help texts
  for process images, messages and variables
- Arithmetic functions
- Limit value monitoring
  for reliable process control of inputs and outputs
- Indicator light
  for machine and plant status indication
- Scheduler
  for cyclic function execution
- Dynamic positioning of objects and dynamic showing/hiding of objects
- Permanent window and template concept
  - Creation of screen templates:
- Simple maintenance and configuration thanks to:
  - Backup and restoration of the project, operating system, recipe data records and firmware on the optional standard multi-media card
  - Backup and restoration of configuration, operating system, recipe data sets and firmware on a PC using ProSave
  - Project transfer/return over MPI/PROFIBUS DP/serial or PROFINET
  - Automatic transfer identification
  - Individual contrast settings
  - Project simulation directly on the configuration computer
- WinCC flexible options
  - Sm@rtService for remote operator control and monitoring of SIMATIC HMI systems based on TCP/IP networks
  - Sm@rtAccess for communication between HMI systems based on TCP/IP networks. Remote access to recipe data sets, passwords and information specific to the HMI system, and much more.
  - OPC server Communication with applications (e.g. MES, ERP, or applications in the office sector) from various manufacturers (see HMI software/runtime software SIMATIC WinCC flexible /WinCC flexible RT options)
  - Audit

Configuring

Configuration is carried out with the SIMATIC WinCC flexible Compact, Standard or Advanced engineering software (see SIMATIC WinCC flexible HMI software/engineering software). SIMATIC WinCC flexible is the logical further development of the field-proven ProTool family. Projects generated using ProTool can be easily migrated to WinCC. If WinCC flexible is started directly from SIMATIC Manager, data in STEP 7 can be accessed directly when the panel is configured. Duplicated data input and data management is, therefore, avoided.

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Integration

The SIMATIC Mobile Panel 277 is generally provided for optional PROFIBUS or PROFINET communication. No distinction is made at device level.
This means the device can either be operated

- for the **communication via MPI/PROFIBUS** with the DP cables and connection to the **DP "Basic"** or **"Plus"** connection boxes or
- for the **communication via PROFINET** with the PN cables and connection to the **PN "Basic"** or **"Plus"** connection boxes.

A variety of drivers – even for PLCs from other suppliers – are supplied as standard.

Using the DP connection boxes, the Mobile Panel 277 DP can be connected to:

- SIMATIC S7-200/-300/-400
- SIMATIC WinAC Software/Slot PLC
- SIMOTION
- SIMATIC S5
- SIMATIC 505
- PLCs from other manufacturers
  - Allen Bradley
  - Mitsubishi
  - Modicon Modbus
  - GE-Fanuc
  - LG GLOFA GM
  - OMRON
- SINUMERIK
  (optionally with "SINUMERIK HMI copy licence WinCC flexible CE"; "SINUMERIK HMI engineering package WinCC flexible" is additionally required for configuring;
  For further details, see Catalog NC 60)

Using the PN connection boxes, the Mobile Panel 277 can be connected to:

- SIMATIC S7-200/-300/-400
- WinAC Software
- SIMOTION
- Over Ethernet (TCP/IP) to a higher-level PC, network printer

Note:
Further information can be found under "System interfaces".

Technical specifications

Version type	**SIMATIC Mobile Panel 277 with integr. enabling pushbutton**	**SIMATIC Mobile Panel 277 with integr. enabling button and STOP pushbutton**	**SIMATIC Mobile Panel 277 with integr. enabling button, STOP pushbutton, handwheel, key-operated switch and 2 illuminated pushbuttons**
Power supply			
Voltage	via connection box	via connection box	via connection box
Memory			
Type	Flash / RAM	Flash / RAM	Flash / RAM
Usable memory for project data / options	6 MB user memory	6 MB user memory	6 MB user memory
Time			
Real-time clock			
• Type	Hardware clock, battery-backed and synchronized	Hardware clock, battery-backed and synchronized	Hardware clock, battery-backed and synchronized
Configuration			
Configuring tool	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)
Display			
Display type	TFT Liquid Crystal Display (LCD), 65536 colors	TFT Liquid Crystal Display (LCD), 65536 colors	TFT Liquid Crystal Display (LCD), 65536 colors
Size	7.5 "	7.5 "	7.5 "
Resolution (WxH in pixels)	640 x 480	640 x 480	640 x 480
MTBF of background lighting (at 25 °C)	approx. 50000 h	approx. 50000 h	approx. 50000 h
Operating mode			
Operating elements	Membrane keyboard	Membrane keyboard	Membrane keyboard
Function keys, programmable	18, 18 with LED	18, 18 with LED	18, 18 with LED
Touch screen	analog, resistive	analog, resistive	analog, resistive
Numeric/alphanumeric input	Yes / Yes	Yes / Yes	Yes / Yes
External mouse/keyboard/ barcode reader	USB / USB / USB	USB / USB / USB	USB / USB / USB
Degree of protection			
Front	IP 65	IP 65	IP 65
Rear	IP 65	IP 65	IP 65

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Technical specifications (continued)

	SIMATIC Mobile Panel 277 with	SIMATIC Mobile Panel 277 with	SIMATIC Mobile Panel 277 with
Certificates & Standards			
Certification	CE, cULus, C-Tick, SIBE	CE, cULus, C-Tick, SIBE	CE, cULus, C-Tick, SIBE
• Safety category acc. to EN954-1	Safety category 3 (enable switch, STOP pushbutton)	Safety category 3 (enable switch, STOP pushbutton)	Safety category 3 (enable switch, STOP pushbutton)
Ambient conditions			
max. relative humidity (in %)	80%	80%	80%
Drop height	1.2 m	1.2 m	1.2 m
Temperature			
• operation	0 to +40 °C	0 to +40 °C	0 to +40 °C
• transportation, storage	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
I/Os / Options			
I/O	printer, barcode reader	printer, barcode reader	printer, barcode reader
Output mode			
LED color	green	green	green
Interfaces			
Interfaces	1 x RS422, 1 x RS485 (max. 12 Mbit/s)	1 x RS422, 1 x RS485 (max. 12 Mbit/s)	1 x RS422, 1 x RS485 (max. 12 Mbit/s)
Multi Media Card slot	1 x Multi Media Card SLOT	1 x Multi Media Card SLOT	1 x Multi Media Card SLOT
USB	1 x USB (Universal Serial Bus)	1 x USB (Universal Serial Bus)	1 x USB (Universal Serial Bus)
Ethernet	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
Operating systems			
Operating system	Windows CE	Windows CE	Windows CE
Processors			
Processor	Arm, 520 MHz	Arm, 520 MHz	Arm, 520 MHz
Functionality with WinCC flexible			
Applications/Options	Internet Explorer, Sm@rt Service, Sm@rt Access	Internet Explorer, Sm@rt Service, Sm@rt Access	Internet Explorer, Sm@rt Service, Sm@rt Access
Number of Visual Basic Scripts	50	50	50
Scheduler	Yes	Yes	Yes
Help system	Yes	Yes	Yes
Status/control	SIMATIC S7	SIMATIC S7	SIMATIC S7
Signaling system			
• Number of messages	4,000	4,000	4,000
• Bit messages	Yes	Yes	Yes
• Analog messages	Yes	Yes	Yes
• Message buffer	Retentive and maintenance-free ring buffer, 512 entries each	Retentive and maintenance-free ring buffer, 512 entries each	Retentive and maintenance-free ring buffer, 512 entries each
Recipes			
• Recipes	300	300	300
• Data records per recipe	500	500	500
• Entries per data record	1000	1000	1000
• Recipe memory	64 KB integrated Flash, expandable using optional multimedia card	64 KB integrated Flash, expandable using optional multimedia card	64 KB integrated Flash, expandable using optional multimedia card
Number of process screens			
• Process screens	500	500	500
• Variables	2.048	2.048	2.048
• Limit values	Yes	Yes	Yes
• Multiplexing	Yes	Yes	Yes
Picture elements			
• Text objects	10000 text elements	10000 text elements	10000 text elements
• Grafics objects	bitmaps, icons, vector graphics	bitmaps, icons, vector graphics	bitmaps, icons, vector graphics
• Dynamic objects	diagrams, bar graphs, slides, analog displays, hidden buttons	diagrams, bar graphs, slides, analog displays, hidden buttons	diagrams, bar graphs, slides, analog displays, hidden buttons

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Technical specifications (continued)

	SIMATIC Mobile Panel 277 with	SIMATIC Mobile Panel 277 with	SIMATIC Mobile Panel 277 with
Lists			
• Text lists	500	500	500
• Graphics lists	400	400	400
• Libraries	Yes	Yes	Yes
Archiving			
• Number of archives per project	20	20	20
• Number of process tags per archive	20	20	20
• Number of entries per archive	10.000	10.000	10.000
• Memory location	Multi Media Card + SD	Multi Media Card + SD	Multi Media Card + SD
Security			
• Number of user groups	50	50	50
• Number of access rights	32	32	32
• Password exportable	Yes	Yes	Yes
Data carrier support			
• Multi Media Card	Yes	Yes	Yes
Logging			
• Logging/Printing	Messages, report/log, color print, hardcopy	Messages, report/log, color print, hardcopy	Messages, report/log, color print, hardcopy
Fonts			
• Keyboard fonts	US American (English)	US American (English)	US American (English)
Languages			
• Online languages	16	16	16
• Project languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian
• Character set	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable
Transfer (Upload/Download)			
• Transfer of the configuration data	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition
Process connecting			
• Connection to controller	S5, S7-200, S7- 300/400, 505, WinAC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), other third-party driver	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), other third-party driver	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus), other third-party driver
Weight			
Weight	1.7 kg	1.7 kg	1.7 kg

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SIMATIC Mobile Panel 277

Ordering data		Order No.
SIMATIC Mobile Panel 277		
• With integrated enabling button	F	**6AV6 645-0CA01-0AX0**
• With integrated enabling button and STOP pushbutton	F	**6AV6 645-0CB01-0AX0**
• With integrated enabling button, STOP pushbutton, handwheel, key-operated switch and 2 illuminated pushbuttons	F	**6AV6 645-0CC01-0AX0**
Configuring		
with SIMATIC WinCC flexible		see Section 4
Documentation (to be ordered separately)		
Operating Instructions for Mobile Panel 277		
• German		**6AV6 691-1DL01-0AA0**
• English		**6AV6 691-1DL01-0AB0**
• French		**6AV6 691-1DL01-0AC0**
• Italian		**6AV6 691-1DL01-0AD0**
• Spanish		**6AV6 691-1DL01-0AE0**
WinCC flexible User Manual Compact/Standard/Advanced		
• German		**6AV6 691-1AB01-0AA0**
• English		**6AV6 691-1AB01-0AB0**
• French		**6AV6 691-1AB01-0AC0**
• Italian		**6AV6 691-1AB01-0AD0**
• Spanish		**6AV6 691-1AB01-0AE0**
WinCC flexible communication User Manual		
• German		**6AV6 691-1CA01-0AA0**
• English		**6AV6 691-1CA01-0AB0**
• French		**6AV6 691-1CA01-0AC0**
• Italian		**6AV6 691-1CA01-0AD0**
• Spanish		**6AV6 691-1CA01-0AE0**
SIMATIC HMI Manual Collection Electronic documentation, on DVD 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	B	**6AV6 691-1SA01-0AX0**

		Order No.
System components for Mobile Panels		
DP connection box for Mobile Panels (MPI/PROFIBUS)		
• Basic	A	**6AV6 671-5AE00-0AX0**
• Plus	A	**6AV6 671-5AE10-0AX0**
PN connection box for Mobile Panel (PROFINET)		
• Basic	A	**6AV6 671-5AE01-0AX0**
• Plus	A	**6AV6 671-5AE11-0AX0**
DP connecting cable (MPI/PROFIBUS)		
Standard cables		
• 2 m		**6XV1 440-4AH20**
• 5 m		**6XV1 440-4AH50**
• 10 m		**6XV1 440-4AN10**
• 15 m		**6XV1 440-4AN15**
• 25 m		**6XV1 440-4AN25**
Intermediate lengths [1]		
• 8 m		**6XV1 440-4AH80**
• 20 m		**6XV1 440-4AN20**
PN connecting cable (PROFINET)		
Standard cables		
• 2 m		**6XV1 440-4BH20**
• 5 m		**6XV1 440-4BH50**
• 8 m		**6XV1 440-4BH80**
• 10 m		**6XV1 440-4BN10**
• 15 m		**6XV1 440-4BN15**
• 20 m		**6XV1 440-4BN20**
• 25 m		**6XV1 440-4BN25**
Mobile Panel accessories		
Optional battery pack for Mobile Panels [2]		see HMI accessories
Wall-mounting bracket for Mobile Panels		see HMI accessories
Memory card (Multi Media Card), 64 MB		see HMI accessories
Protective foil		see HMI accessories
Labeling strips		see HMI accessories
Service package for Mobile Panel		see HMI accessories
Mobile Panel spare keys (pack of 10)		see HMI accessories

A) Subject to export regulations AL: N and ECCN: EAR99H
F) Subject to export regulations AL: N and ECCN: 5D002ENC3

1) Delivery period approx. 6 weeks
2) Does not apply to Mobile Panel 170

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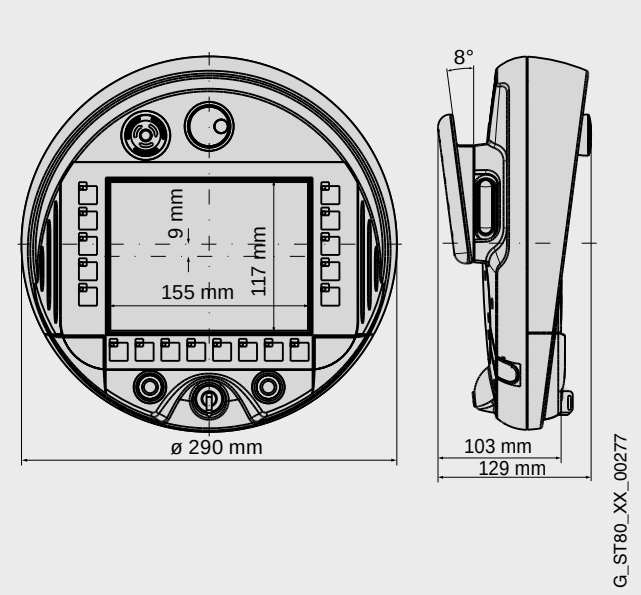
Dimension drawings



Mobile Panel 277 - front and side views

More information

Additional information is available in the Internet under:
http://www.siemens.com/mobile-panels

Note:
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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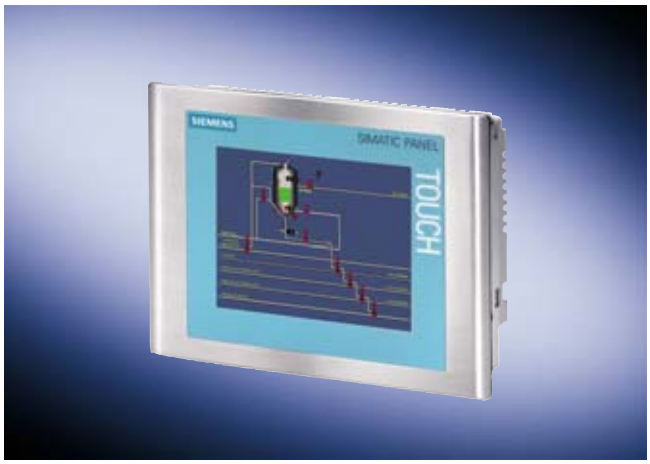
SIMATIC TP 177B PN/DP INOX

Overview



- Touch Panel with comprehensive functions for operator control and monitoring of machines and plants
- Pixel-graphics color STN display with analog touch screen
- The TP 177B PN/DP INOX is also available with a stainless steel front (DIN EN 1672-2). The stainless steel front is appropriate e.g. for the increased demands of the food and beverages industry
- Interfaces for communication with Siemens SIMATIC S7 (e.g. MPI, PROFIBUS DP) are on-board
- PROFINET interface 10/100 Mbaud is already on-board
- Drivers are also available for non-Siemens PLCs

Benefits

- Reduction of service and commissioning costs through:
  - backup/restoration via a process interface or optionally via a Multi Media Card
  - image and configuration download via all device interfaces
  - maintenance-free structure and long service life of the backlighting.
    The data in the message buffer are retained even when the panel is disconnected from the supply, without battery backup.
- Can be used all over the world:
  - project languages can be configured (incl. Asian and Cyrillic character sets)
  - online language can be selected directly on the device
- Graphics library available with off-the-shelf picture objects
- Standard interfaces for increasing the flexibility:
  - external Multi Media Card, used for recipe data sets and for backup of configuration/system data
- Integrated USB interface for connecting, for example, standard printers
- Simple engineering supported by comprehensive documentation on the SIMATIC HMI Manual Collection DVD
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes engineering outlay, reduces lifecycle costs
- The panel versions with stainless steel front can be optimally used in the food and beverages and pharmaceutical industries. In addition, stainless steel fronts (including gasket) provide protection against foods contamination.

Application

Thanks to their practical functions and large user memory, TP 177B PN/DP INOX can be used wherever operator control and monitoring of machines and plants is necessary on site – whether in production automation, process automation or building-services automation. The TP 177B PN/DP INOX panels are available with a 256-color STN display. The integrated PROFINET interface provides even greater flexibility.
An USB port is standard. A further highlight is the non-volatile message buffer included as standard that stores messages permanently without battery backup.

The TP 177B PN/DP INOX has been additionally designed for all industries requiring such. The front can be disinfected, and does not influence the quality e.g. of foods (assuming regular cleaning). Cleaning can be carried out using pressurized water with a jet of 100 l/min at 1 bar from a distance of 2.5 to 3 m. Liquids flow off automatically from the front panels.

Design

- 256 colors with color STN display
- CCFL[1)] Backlighting with long service life
- Analog resistive touch screen
- Numeric and alphanumeric on-screen keyboard
- High performance thanks to RISC processor and 2 MB user memory, plus additional integrated recipe memory
- Data in the message buffer are retained even when panel is disconnected from the power supply, without batteries
- MPI, PROFIBUS DP interfaces (up to 12 Mbaud) as well as USB 1.1 (max. 100 mA) on-board
- PROFINET interface 10/100 Mbaud
- Integral USB interface
- Can be configured using SIMATIC WinCC flexible 2005 Compact and higher
- Complete functionality for demanding tasks
- Comprehensive graphics library
- Languages (e.g., Cyrillic, traditional Chinese, simplified Chinese) can be switched online
- Multi Media Card slot, can be used for standard Multi Media Cards (for backing up recipe data sets, the configuration and system data)
- Remote downloading of the configuration via all interfaces with automatic transfer recognition
- Options for SINUMERIK, Sm@rtAccess and Sm@rtService can be used
- Service-friendly thanks to maintenance-free design and long service life of the backlighting display

1) Cold Cathode Fluorescence Lamps

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Function

- Permanent window and template concept for creating screen templates
- Input/output fields
  for visualizing and editing process parameters
- Configurable buttons
  with several functions are also used to directly trigger functions and actions
- Indicator light
  for machine and plant status indication
- Predefined texts
  for labeling function keys, process images and process values in any character size
- Help texts
  for process images, messages and variables
- Vector graphics, graphics
  can be used as icons instead of text for "labeling" buttons. They can also be used as full-screen background pictures.
  In the configuration tool, a library is available containing extensive graphics and a wide variety of objects. All editors with an OLE interface (e.g., PaintShop, Designer or CorelDraw) can be used as graphics editors.
- Curve functions and bars
  are used for the display of dynamic values in graphics-based format
- Dynamic positioning of objects and dynamic showing/hiding of objects
- Arithmetic functions, limit value monitoring
  for reliable process control with inputs and outputs
- Online language selection, incl. Asian and Cyrillic languages
  This also applies to language-specific graphics
- Timer
  for cyclic function processing
- Password protection (security)
  User management – Authentication by means of user ID and password plus privileges specific to user groups, which is an integral part of SIMATIC
- Signaling system
  Freely definable message classes (acknowledgement behavior and display can be configured) Administration of status, fault and system messages. The alarm history is retained even if the device is switched off. Analog alarms (limit value messages) in addition to discrete alarms.
- Recipe management:
  - With additional data storage (on ext. storage medium)
  - Online/offline processing on the panel
  - Storage of recipe data in standard Windows format (CSV)
  - External processing using standard tools such as Excel and Access is possible
- Multi Media Card slot
  for external standard data carrier, can be used for backup/restoration or for transporting recipe data records
- User-friendly maintenance and configuration thanks to:
  - Backup and restoration of the configuration, operating system, data records and firmware on a PC using ProSave
  - Option to download/upload the configuration via all device interfaces (with automatic transfer detection)
  - Individual contrast setting and calibration
  - Clean screen function to support reliable cleaning of the touch panel in service
  - Configuration simulation directly on the configuration computer

Configuring

The equipment is configured using the innovative engineering tool SIMATIC WinCC flexible 2005 (Compact and above). SIMATIC WinCC flexible is the logical further development of the field-proven ProTool family. Projects generated using ProTool can be easily migrated to WinCC. When OP17 projects are implemented, the project engineer must make certain changes following conversion as a result of the innovated display technology. Support is however provided by WinCC flexible. If WinCC flexible is started directly from SIMATIC Manager, data in STEP 7 can be accessed directly at the click of a mouse button when the panel is configured. Duplicated data input and data management is, therefore, avoided.

Additional options

- SINUMERIK
  Optionally with "SINUMERIK HMI copy license WinCC flexible CE". The SINUMERIK HMI engineering WinCC flexible package is also required for configuration.
  For further information see Catalog NC 60.
- Sm@rt Service
  Remote operator control and monitoring of SIMATIC HMI systems based on TCP/IP networks
- Sm@rt Access
  Communication between HMI systems based on TCP/IP networks. Remote access to recipe data sets, passwords and information specific to the HMI system, and much more.

Technical specifications

	6AV6 642-8BA10-0AA0
Power supply	
Voltage	24 V DC
Permissible range	+18 to +30 V DC
Memory	
Type	Flash / RAM
Usable memory for project data / options	2048 kByte user memory
Time	
Real-time clock	
Type	Hardware clock, synchronized, not battery-backed
Configuration	
Configuring tool	WinCC flexible Compact Version 2005 or higher (to be ordered separately)

	6AV6 642-8BA10-0AA0
Display	
Display type	STN Liquid Crystal Display (LCD), 256 colors
Size	5.7 " (120 mm x 90 mm)
Resolution (W x H in pixels)	320 x 240
MTBF of background lighting (at 25 °C)	approx. 50000 h
Operating mode	
Operating elements	Touch screen
Touch screen	analog, resistive
Numeric/alphanumeric input	Yes / Yes
External mouse/keyboard/ barcode reader	USB / USB / -

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SIMATIC TP 177B PN/DP INOX

Technical specifications (continued)

	6AV6 642-8BA10-0AA0
Degree of protection	
Front	IP 66K, NEMA 4, NEMA 4x, NEMA 12 (when installed)
Rear	IP 20
Certificates & Standards	
Certification	CE, FM Class I Div. 2, cULus, EX-Zone 2/22, C-Tick,
Ambient conditions	
Mounting position	vertical
Max. inclination angle without separate ventilation	+/- 35°
max. relative humidity (in %)	90%
Temperature	
• operation (vertical mountig)	0 to +50°C
• operation (max. inclination angle)	0 to +40°C
• transportation, storage	-20 to +60°C
I/Os / Options	
I/O	printer
Interfaces	
Interfaces	RS232 optional, 1 x RS422, 1 x RS485 (max. 12 Mbit/s)
CF-Card Slot	No
Multi Media Card Slot	1 x Multi Media Card SLOT
USB	1 x USB (Universal Serial Bus)
Ethernet	1 x Ethernet (RJ45)
Operating systems	
Operating systems	Windows CE
Processors	
Processor	RISC 32 bit, 200 MHz
Functionality with WinCC flexible	
Applications/Options	Sm@rt Service , Sm@rt Access
Scheduler	Yes
Help system	Yes
Status/control	SIMATIC S7
Number of messages	
• Bit messages	2,000
• Analog messages	Yes
• Message buffer	Yes
• Operating systems	Retentive and maintenance-free ring buffer, 256 entries each
Recipes	
• Recipes	100
• Data records per recipe	200
• Entries per data record	200
• Recipe memory	32 KB integrated Flash, expandable
Number of messages	
• Number of process screens	500
• Process screens	1,000
• Variables	Yes
• Limit values	Yes
Multiplexing	
• Picture elements	2500 text elements
• Text objects	bitmaps, icons, vector graphics
• Grafics objects	diagrams, bar graphs, slides, analog displays, hidden buttons

	6AV6 642-8BA10-0AA0
Lists	
• Text lists	300
• Graphics lists	100
• Libraries	Yes
Security	
• Number of user groups	50
• Number of access rights	32
• Password exportable	Yes
Data carrier support	
• CF Card	No
• Multi Media Card	Yes
Logging	
• Logging/printing	Messages, report/log, color print, hardcopy
• printer driver	ESC2/P2, PCL3/PCL6
Fonts	
• Keyboard fonts	US American (English)
Languages	
• Online languages	5
• Project languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian
• Character set	Tahoma, WinCC flexible Standard, ideographic languages, 1 character set loadable, all freely scalable
Transfer (Upload/Download)	
• Transfer	MPI/PROFIBUS DP, serial, USB, Ethernet, via external memory, automatic transfer recognition
Process connecting	
• Connection to controller	S5, S7-200, S7- 300/400, Win AC, PC (TCP/IP), SINUMERIK, SIMOTION, Allen Bradley (DF1), Mitsubishi (FX), Telemechanique (ADJUST), Modicon (Modbus), other drivers, see chapter "system connection"
Expandability/Openness	
• Open Platform Program	Yes
Front	
• Material	Stainless steel 1.4301, polyester film
• Surface	Ground to particle size of 240
• Seal	EPDM
• Special features	Optimized frame design, sloped surfaces
Dimensions	
Housing front (W x H)	212 mm x 156 mm
Installation cutout/installation depth (W x H x D)	198 mm x 142 mm / 46 mm device depth
External dimensions of clamping frame (W x H)	230 mm x 174 mm
Weight	
Weight	1.5 kg

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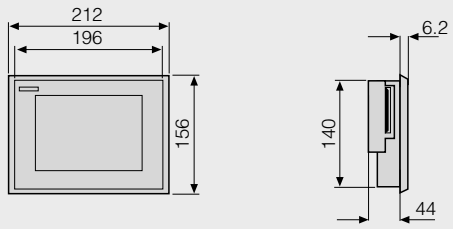
Ordering data	Order No.
SIMATIC TP 177B	
Touch Panel with 5.7" STN display	
• Color (256 colors) with stainless steel front	**6AV6 642-8BA10-0AA0**
incl. mounting accessories	
Configuration software	
• With SIMATIC WinCC flexible 2005	See Chapter 4
Configuration set	
Consisting of: Configuration or engineering software, SIMATIC HMI Manual Collection (DVD), 5 languages (English, French, German, Italian and Spanish), MPI cable (5 m)	
• with SIMATIC WinCC flexible Compact engineering software	**6AV6 621-0AA01-0AA0**
Documentation (to be ordered separately)	
Operating Instructions TP 177micro/TP 177A/TP 177B/ OP 1770B (WinCC flexible)	
• German	**6AV6 691-1DG01-0AA1**
• English	**6AV6 691-1DG01-0AB1**
• French	**6AV6 691-1DG01-0AC1**
• Italian	**6AV6 691-1DG01-0AD1**
• Spanish	**6AV6 691-1DG01-0AE1**
User Manual WinCC flexible Compact/Standard/Advanced	
• German	**6AV6 691-1AB01-0AA0**
• English	**6AV6 691-1AB01-0AB0**
• French	**6AV6 691-1AB01-0AC0**
• Italian	**6AV6 691-1AB01-0AD0**
• Spanish	**6AV6 691-1AB01-0AE0**
User Manual WinCC flexible Communication	
• German	**6AV6 691-1CA01-0AA0**
• English	**6AV6 691-1CA01-0AB0**
• French	**6AV6 691-1CA01-0AC0**
• Italian	**6AV6 691-1CA01-0AD0**
• Spanish	**6AV6 691-1CA01-0AE0**
SIMATIC HMI Manual Collection	**6AV6 691-1SA01-0AX0**
Electronic documentation, on DVD	
5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	

Ordering data	Order No.
Accessories for supplementary ordering	
Cover foil	see HMI accessories
Protective cover	see HMI accessories
Service package	see HMI accessories
Connecting cables	see HMI accessories
Connectors	see HMI accessories
Adapters	see HMI accessories
Converters	see HMI accessories
Standard Multi Media Card	see HMI accessories
System interfaces	see HMI accessories

Dimension drawings

Dimensions in mm



G_ST80_EN_00271

Mounting cutout (W x H) in mm: 198 x 142

More Information

Additional information is available in the Internet under:
http://www.siemens.com/panels

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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SIMATIC TP 277 6"

Overview

- Touch Panel with comprehensive functions for operator control and monitoring of machines and plants
- Content of message buffer is retained even when panel is disconnected, without batteries
- Pixel graphics TFT display with 256 colors and touchscreen
- Interfaces for communication with Siemens SIMATIC S7 (e.g. MPI, PROFIBUS DP) are on-board
- Ethernet on board
- Use of scripts and archives
- Drivers are also available for non-Siemens PLCs
- Installation-compatible with TP 270 6" and MP 270B 6"

Benefits

- Reduction of service and commissioning costs through:
  - backup/restoration via a process interface or optionally via a Multi Media Card
  - remote downloading of the configuration with automatic transfer recognition via all device interfaces
  - maintenance-free design (no battery) and long service life of the backlighting
- Maintenance-free message buffer
- Use of scripts and archives
- Can be used all over the world:
  - 32 offline languages can be configured (incl. Asian and Cyrillic character sets)
  - 16 online languages can be selected directly on the device
- Graphics library available with off-the-shelf picture objects
- Standard interfaces for increasing the flexibility:
  - external multimedia card, used for recipe data sets, archive and for backup of configuration/system data
- Integrated USB interface for connecting, for example, standard printers
- Simple engineering supported by comprehensive documentation on the SIMATIC HMI Manual Collection DVD
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes engineering outlay, reduces lifecycle costs

Application

Thanks to their practical functions and large user memory, the TP 277 6" Touch Panels can be used wherever operator control and monitoring of machines and plants is necessary on site – whether in production automation, process automation or building-services automation. The TP 277 6" offers a 256-color TFT display. The unit has an integral PROFINET I/O interface for even greater flexibility. A further highlight is the non-volatile message buffer included as standard that stores messages permanently without battery backup.

Design

- 256-color TFT display
- CCFL[1)] long-life backlighting
- Analog resistive touch screen
- Numeric and alphanumeric on-screen keyboard
- Scripts and archives
- High performance thanks to RISC processor and 4 MB user memory, plus additional integrated recipe memory
- The data in the message buffer is retained even when the panel is disconnected from the supply, without battery backup
- MPI, PROFIBUS DP interfaces (up to 12 Mbaud) as well as USB 1.1 (max. 100 mA) on-board
- Ethernet (PROFINET I/O capable)
- Integral USB interface
- Can be configured using SIMATIC WinCC flexible 2005 Standard SP1
- Complete functionality for demanding tasks
- Comprehensive Reichert graphics library
- 32 languages (e.g., Cyrillic, traditional Chinese, simplified Chinese) and online switching between up to 16 languages
- Multi Media Card slot, can be used for standard Multi Media Cards (for backing up archives and recipe data sets, the configuration and system data)
- Remote downloading of the configuration via all interfaces with automatic transfer recognition
- Options for Sinumerik, Sm@rtAccess and Sm@rtService can be used
- Service-friendly thanks to maintenance-free design and long service life of the backlighting display

1) Cold Cathode Fluorescence Lamps

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Function

- Permanent window and template concept for creating screen templates
- Input/output fields;
  for visualizing and editing process parameters
- Configurable buttons;
  with up to 16 functions are also used to directly trigger functions and actions
- Indicator light;
  for machine and plant status indication
- Predefined texts;
  for labeling function keys, process images and process values in any character size
- Help texts;
  for process images, messages and variables
- Vector graphics, graphics;
  can be used as icons instead of text for "labeling" buttons. They can also be used as background displays (wallpaper). In the configuration tool, a library is available containing extensive graphics and a wide variety of objects. All editors with an OLE interface can be used as graphics editors (such as PaintShop, Designer or CorelDraw).
- Curve functions and bars;
  are used for the display of dynamic values in graphics-based format
- Dynamic positioning of objects and dynamic showing/hiding of objects
- Arithmetic functions, limit value monitoring;
  for reliable process control with inputs and outputs
- Online language selection (16 selectable languages), incl. Asian and Cyrillic languages
  This also applies to language-specific graphics
- Timer;
  for cyclic function processing
- Password protection (security);
  user management – Authentication by means of user ID and password plus privileges specific to user groups, which is an integral part of SIMATIC
- Signaling system;
  freely definable message classes (acknowledgement behavior and display can be configured), administration of status, fault and system alarms. The message history is retained even if the device is switched off.
  Analog alarms (limit value messages) in addition to bit messages
- Visual Basic Script, flexibility thanks to the implementation of new functions including linking to variables (comparison operations, loops, etc.)
- Archiving of messages and process values
  (on MultiMedia card or network drives over Ethernet)
  - various archive types: Short-term and sequence archives
  - sorage of archive data in standard Windows format (CSV)
  - online evaluation of process value archives through trend curves
  - external processing using standard tools (MS Excel and MS Access) is possible
- Recipe management
  - with additional data storage (on ext. storage medium)
  - online/offline processing on the panel
  - storage of recipe data in standard Windows format (CSV)
  - external processing using standard tools such as Excel and Access is possible
- Multi Media Card (MMC) slot;
  for external standard data carrier, can be used for backup/restoration or for transporting recipe data records
- User-friendly maintenance and configuration thanks to:
  - backup and restoration of the configuration, operating system, data records and firmware on a PC using ProSave
  - option to download/upload the configuration via all device interfaces (with automatic transfer detection)
  - individual contrast setting and calibration
  - configuration simulation directly on the configuration computer

Configuring

The equipment is configured using the innovative engineering tool SIMATIC WinCC flexible 2005 SP1 (Standard version or higher). SIMATIC WinCC flexible is the logical further development of the field-proven ProTool family. Projects generated using ProTool can be easily migrated to WinCC. TP 270 6" projects can be transferred. If WinCC flexible is started directly from SIMATIC Manager, data in STEP 7 can be accessed directly at the click of a mouse button when the panel is configured. Duplicated data input and data management is, therefore, avoided.

Additional options

- SINUMERIK
  Optionally with "Sinumerik HMI copy license WinCC flexible CE". For configuring, a "Sinumerik HMI engineering package WinCC flexible" is necessary.
  For further information, see the NC 60 Catalog.
- Sm@rt Service
  Remote operator control and monitoring of SIMATIC HMI systems based on TCP/IP networks
- Sm@rt Access
  Communication between HMI systems based on TCP/IP networks. Remote access to recipe data sets, passwords and information specific to the HMI system, and much more.

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SIMATIC TP 277 6"

Technical specifications

	SIMATIC TP 277 6"
Power supply	
Power supply	24 V DC
permissible range	+20.4 to +28.8 V DC
Memory	
Type	Flash / RAM
Usable memory for project data / options	4 MB user memory
Time	
Real-time clock	
• Type	Software clock, synchronized, not battery-backed
Configuration	
Configuring tool	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)
Display	
Display type	TFT Liquid Crystal Display (LCD), 256 colors
Size	5.7 "
Resolution (WxH in pixels)	320 x 240
MTBF of background lighting (at 25 °C)	approx. 60000 h
Operating mode	
Operating elements	Touch screen
Touch screen	analog, resistive
Numeric/alphanumeric input	Yes / Yes
External mouse/keyboard/barcode reader	USB / USB / USB
Degree of protection	
Front	IP65, NEMA 4x (when installed)
Rear	IP 20
Certificates & Standards	
Certification	CE, UL, NEMA 4x
Ambient conditions	
Mounting position	vertically
max. relative humidity (in %)	80%
Temperature	
• operation	0 to +50 °C
• transportation, storage	-20 to +60 °C
I/Os / Options	
I/O	printer, barcode reader
Interfaces	
Interfaces	1 x RS422, 1 x RS485 (max. 12 Mbit/s)
Multi Media Card Slot	1 x Multi Media Card SLOT
USB	1 x USB (Universal Serial Bus)
Ethernet	1 x Ethernet (RJ45)
Operating systems	
Operating system	Windows CE
Processors	
Processor	RISC 32-bit
Functionality with WinCC flexible	
Applications/Options	Sm@rt Service, Sm@rt Access
Number of Visual Basic Scripts	50
Scheduler	Yes

	SIMATIC TP 277 6"
Help system	Yes
Status/control	SIMATIC S7
Signaling system	
• Number of messages	4,000
• Bit messages	Yes
• Analog messages	Yes
• Message buffer	Retentive and maintenance-free ring buffer, 512 entries each
Recipes	
• Recipes	300
• Data records per recipe	500
• Entries per data record	1000
• Recipe memory	64 KB integrated Flash, expandable using optional multimedia card
Number of process screens	
• Process screens	500
• Variables	2.048
• Limit values	Yes
• Multiplexing	Yes
Picture elements	
• Text objects	10000 text elements
• Grafics objects	bitmaps, icons, vector graphics
• Dynamic objects	diagrams, bar graphs, slides, analog displays, hidden buttons
Lists	
• Text lists	500
• Graphics lists	400
• Libraries	Yes
Archiving	
• Number of archives per project	20
• Number of process tags per archive	20
• Number of entries per archive	10,000
• Memory location	Multi Media Card
Security	
• Number of user groups	50
• Number of access rights	32
• Password exportable	Yes
Data carrier support	
• Multi Media Card	Yes
Logging	
• Logging/Printing	Messages, report/log, color print, hardcopy
Fonts	
• Keyboard fonts	US American (English)
Languages	
• Online languages	16
• Project languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian
• Character set	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable

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Technical specifications (continued)

	SIMATIC TP 277 6"
Transfer (Upload/Download)	
• Transfer of the configuration data	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition
Process connecting	
• Connection to controller	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemechanique (ADJUST), OMRON (LINK/Multilink), Modicon (Modbus)
Dimensions	
Housing front (W x H)	212 mm x 156 mm
Installation cutout/installation depth (W x H x D) in mm	197 mm x 141 mm / 45 mm depth
Weight	
Weight	0.78 kg

Ordering data

		Order No.
SIMATIC TP 277 6”	F	**6AV6 643-0AA01-1AX0**

Accessories for supplementary ordering

Memory cards	see HMI accessories
Cover foils	see HMI accessories
Service packages	see HMI accessories
Connectors	see HMI accessories
Configuration cable	see HMI accessories
System interfaces	see HMI accessories
Connecting cables	see HMI accessories

F) Subject to export regulations AL: N and ECCN: 5D002ENC3

More information

Additional information is available in the Internet under:
http://www.siemens.com/panels

Note:
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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SIMATIC OP 277 6"

Overview

- Operator Panel with comprehensive functions for operator control and monitoring of machines and plants
- Content of message buffer is retained even when panel is disconnected, without batteries
- Pixel graphics TFT display with 256 colors
- 36 system keys, 24 freely-configurable and freely-inscribable function keys (18 with LEDs)
- Interfaces for communication with Siemens SIMATIC S7 (e.g. MPI, PROFIBUS DP) are on-board
- Ethernet on board
- Use of scripts and archives
- Drivers are also available for non-Siemens PLCs
- Installation-compatible with OP 270 6"

Benefits

- Reduction of service and commissioning costs through:
  - backup/restoration via a process interface or optionally via a Multi Media Card
  - remote downloading of the configuration with automatic transfer recognition via all device interfaces
  - maintenance-free design (no battery) and long service life of the backlighting
- Maintenance-free message buffer
- Use of scripts and archives
- Can be used all over the world:
  - 32 offline languages can be configured (incl. Asian and Cyrillic character sets)
  - 16 online languages can be selected directly on the device
- Graphics library available with off-the-shelf picture objects
- Standard interfaces for increasing the flexibility:
  - external multimedia card, used for recipe data sets, archive and for backup of configuration/system data
- Integrated USB interface for connecting, for example, standard printers
- Installation-compatible with OP 270 6"
- Simple engineering supported by comprehensive documentation on the SIMATIC HMI Manual Collection DVD
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes engineering outlay, reduces lifecycle costs

Application

Thanks to their practical functions and large user memory, the OP 277 6" Operator Panels can be used wherever operator control and monitoring of machines and plants is necessary on site – whether in production automation, process automation or building-services automation. The OP 277 6" offers a 256-color TFT display. The unit has an integral PROFINET I/O interface for even greater flexibility. A further highlight is the non-volatile message buffer included as standard that stores messages permanently without battery backup.

Design

- 256-color TFT display
- CCFL[1)] long-life backlighting
- Membrane keyboard with 36 system keys, 24 freely-configurable function keys (18 with LEDs)
- Rugged plastic housing with degree of protection IP65 (front)/ IP20 (rear):
- High performance thanks to RISC processor and 4 MB user memory, plus additional integrated recipe memory
- The data in the message buffer is retained even when the panel is disconnected from the supply, without battery backup
- MPI, PROFIBUS DP interfaces (up to 12 Mbaud) as well as USB 1.1 (max. 100 mA) on-board
- Ethernet (PROFINET I/O capable)
- Integral USB interface
- Can be configured using SIMATIC WinCC flexible 2005 Standard SP1
- Complete functionality for demanding tasks
- Comprehensive Reichert graphics library
- 32 languages (e.g., Cyrillic, traditional Chinese, simplified Chinese) and online switching between up to 16 languages
- Multi Media Card slot, can be used for standard Multi Media Cards (for backing up archives and recipe data sets, the configuration and system data)
- Remote downloading of the configuration via all interfaces with automatic transfer recognition
- Options for SINUMERIK, Sm@rtAccess and Sm@rtService can be used
- Service-friendly thanks to maintenance-free design and long service life of the backlighting display

1) Cold Cathode Fluorescence Lamps

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Function

- Permanent window and template concept for creating screen templates
- Input/output fields;
  for visualizing and editing process parameters
- Function keys;
  for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on function keys.
  The function keys can be used directly as PROFIBUS DP input peripherals.
- Indicator light;
  for machine and plant status indication
- Predefined texts;
  for labeling function keys, process images and process values in any character size
- Help texts;
  for process images, messages and variables
- Vector graphics, graphics;
  can be used as icons instead of text for "labeling" buttons. They can also be used as background displays (wallpaper).
  In the configuration tool, a library is available containing extensive graphics and a wide variety of objects. All editors with an OLE interface can be used as graphics editors (such as PaintShop, Designer or CorelDraw).
- Curve functions and bars;
  are used for the display of dynamic values in graphics-based format
- Dynamic positioning of objects and dynamic showing/hiding of objects
- Arithmetic functions, limit value monitoring;
  for reliable process control with inputs and outputs
- Online language selection (16 selectable languages), incl. Asian and Cyrillic languages;
  this also applies to language-specific graphics
- Timer;
  for cyclic function processing
- Password protection (security);
  user management – Authentication by means of user ID and password plus privileges specific to user groups, which is an integral part of SIMATIC
- Signaling system;
  freely definable message classes (acknowledgement behavior and display can be configured), administration of status, fault and system alarms. The message history is retained even if the device is switched off.
  Analog alarms (limit value messages) in addition to bit messages
- Visual Basic Script, flexibility thanks to the implementation of new functions including linking to variables (comparison operations, loops, etc.)
- Archiving of messages and process values (on MultiMedia card or network drives over Ethernet):
  - various archive types: Short-term and sequence archives
  - storage of archive data in standard Windows format (CSV)
  - online evaluation of process value archives through trend curves
  - external processing using standard tools (MS Excel and MS Access) is possible
- Recipe management
  - with additional data storage (on ext. storage medium)
  - online/offline processing on the panel
  - storage of recipe data in standard Windows format (CSV)
  - external processing using standard tools such as Excel and Access is possible
- Multi Media Card (MMC) slot;
  for external standard data carrier, can be used for backup/restoration or for transporting recipe data records
- User-friendly maintenance and configuration thanks to:
  - backup and restoration of the configuration, operating system, data records and firmware on a PC using ProSave
  - option to download/upload the configuration via all device interfaces (with automatic transfer detection)
  - individual contrast setting and calibration
  - configuration simulation directly on the configuration computer

Configuring

The equipment is configured using the innovative engineering tool SIMATIC WinCC flexible 2005 SP1 (Standard version or higher). SIMATIC WinCC flexible is the logical further development of the field-proven ProTool family. Projects generated using ProTool can be easily migrated to WinCC. OP 270 6" projects can be transferred. If WinCC flexible is started directly from SIMATIC Manager, data in STEP 7 can be accessed directly at the click of a mouse button when the panel is configured. Duplicated data input and data management is, therefore, avoided.

Additional options

- SINUMERIK:
  Optionally with "Sinumerik HMI copy license WinCC flexible CE". For configuring, a "SINUMERIK HMI engineering package WinCC flexible" is necessary.
  For further information, see Catalog NC 60.
- Sm@rt Service:
  Remote operator control and monitoring of SIMATIC HMI systems based on TCP/IP networks
- Sm@rt Access:
  Communication between HMI systems based on TCP/IP networks. Remote access to recipe data sets, passwords and information specific to the HMI system, and much more.

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SIMATIC OP 277 6"

Technical specifications

	SIMATIC OP 277 6"
Power supply	
Power supply	24 V DC
permissible range	+18 to +30 V DC
Memory	
Type	Flash / RAM
Usable memory for project data / options	4 MB user memory
Time	
Real-time clock	
• Type	Software clock, synchronized, not battery-backed
Configuration	
Configuring tool	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately
Display	
Display type	TFT Liquid Crystal Display (LCD), 256 colors
Size	5.7 "
Resolution (WxH in pixels)	320 x 240
MTBF of background lighting (at 25 °C)	approx. 60000 h
Operating mode	
Operating elements	membrane keyboard
Function keys, programmable	24 function keys, 18 with LED
System keys	36
Numeric/alphanumeric input	Yes/Yes (can only be displayed in English font, onscreen)
Connection for mouse/keyboard/ barcode reader	USB / USB / USB
Degree of protection	
Front	IP 65
Rear	IP 20
Certificates & Standards	
Certification	CE, UL
Ambient conditions	
Mounting position	vertically
max. relative humidity (in %)	80%
Temperature	
• operation	0 to +50 °C
• transportation, storage	-20 to +60 °C
I/Os / Options	
I/O	printer, barcode reader
Output mode	
LED color	green
Interfaces	
Interfaces	1 x RS422, 1 x RS485 (max. 12 Mbit/s)
Multi Media Card Slot	1 x Multi Media Card-SLOT
USB	1 x USB (Universal Serial Bus)
Ethernet	1 x Ethernet (RJ45)
Operating systems	
Operating system	Windows CE
Processors	
Processor	RISC 32 bit

	SIMATIC OP 277 6"
Functionality with WinCC flexible	
Applications/Options	Sm@rt Service, Sm@rt Access
Number of Visual Basic Scripts	50
Scheduler	Yes
Help system	YesJa
Status/control	bei SIMATIC S7
Signaling system	
• Number of messages	2.000
• Bit messages	Yes
• Analog messages	Yes
• Message buffer	Retentive and maintenance-free ring buffer, 256 entries each
Recipes	
• Recipes	300
• Data records per recipe	500
• Entries per data record	1000
• Recipe memory	64 KB integrated Flash, expandable using optional multimedia card
Number of process screens	
• Process screens	500
• Variables	2.048
• Limit values	Yes
• Multiplexing	Yes
Picture elements	
• Text objects	10000 text elements
• Grafics objects	bitmaps, icons, vector graphics
• Dynamic objects	diagrams, bar graphs, slides, analog displays, hidden buttons
Lists	
• Text lists	500
• Graphics lists	400
• Libraries	Yes
Archiving	
• Number of archives per project	20
• Number of process tags per archive	20
• Number of entries per archive	10,000
• Memory location	Multi Media Card
Security	
• Number of user groups	50
• Number of access rights	32
• Password exportable	Yes
Data carrier support	
• Multi Media Card	Yes
Logging	
• Logging/Printing	Messages, report/log, color print, hardcopy
Fonts	
• Keyboard fonts	US American (English)

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Technical specifications (continued)

	SIMATIC OP 277 6"
Languages	
• Online languages	16
• Project languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian
• Character set	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable
Transfer (Upload/Download)	
• Transfer	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition
Process connecting	
• Connection to controller	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), OMRON (LINK/Multilink), Modicon (Modbus)
Dimensions	
Housing front (W x H)	308 mm x 204 mm
Installation cutout/installation depth (W x H x D) in mm	281 mm x 177 mm / 59 mm depth
Weight	
Weight	1.19 kg

Ordering data

		Order No.
SIMATIC OP 277 6”	F	**6AV6 643-0BA01-1AX0**

Accessories for supplementary ordering

Memory cards	see HMI accessories
Cover foils	see HMI accessories
Service packages	see HMI accessories
Connectors	see HMI accessories
Configuration cable	see HMI accessories
System interfaces	see HMI accessories
Connecting cables	see HMI accessories

F) Subject to export regulations AL: N and ECCN: 5D002ENC3

More information

Additional information is available in the Internet under:
http://www.siemens.com/panels

Note:
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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2

SIMATIC MP 277

Overview

- Like operator panels, Multi Panels are used for machine operation and monitoring locally.
- Content of message buffer is retained even when panel is disconnected, without batteries
- Their functions can be expanded by the installation of additional Windows CE applications (Multi Panel and Panel options)
- SIMATIC MP 277 devices on the basis of Windows CE combine the rugged construction of Operator Panels with the flexibility of PCs
- Pixel-graphics 7.5" or 10.4" TFT display, color (64k colors)
- *MP 277 10" Key:*
  38 system keys, 36 user-configurable and freely inscribable function keys (28 with LEDs)
  MP 277 8" Key:
  38 system keys, 26 user-configurable and freely inscribable function keys (18 with LEDs)
  MP 277 8" and MP 277 10" Touch:
  Touchscreen (analog/resistive)
- All interfaces (e.g., MPI, PROFIBUS DP, USB, Ethernet) are onboard

Benefits

- Integral component of Totally Integrated Automation (TIA): increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Modular expansion possible with options such as
  - WinCC flexible / Sm@rtAccess for communication between different Simatic HMI systems
  - WinCC flexible /Sm@rtService for remote maintenance and servicing of machines/plants via the intranet/Internet
  - WinCC flexible /OPC-Server for communication with applications from various manufacturers
  - MS Pocket Internet Explorer (already included in scope of delivery)
- Reduction of service and commissioning costs through:
  - Backup/Restore via Ethernet (TCP/IP), USB, MPI, PROFIBUS DP or optionally via SD/Multi Media Card
  - remote download/upload of the configuration and firmware
  - specific drivers can be reloaded
  - long service life of the backlighting
- Graphics library available with off-the-shelf picture objects
- Can be used all over the world:
  - 32 languages can be configured (incl. Asian and Cyrillic character sets)
  - up to 16 languages can be switched online.
- Standard hardware and software interfaces for increasing flexibility:
  - SD/MultiMediaCard slot for memory expansions, backup/restore or additional interfaces
  - Ethernet (TCP/IP) for central data and project management Ethernet; control link possible to SIMATIC S7
  - Standard Windows storage formats (CSV) for archives and recipes permit further processing with standard tools (e.g. Microsoft Excel)

Application

They are used in a wide range of industries and applications which can be extended by means of the Multi Panel options, e.g. presentation of HTML documents via Microsoft Pocket Internet Explorer.

The diskless and fanless design permits their use even where dust or vibration limits the use of a PC. Short power-up times mean the Multi Panels are soon ready to use.

Design

- Compact design with low mounting depth
- The mounting dimensions of the 10" devices correspond to those of their predecessor
  See technical specifications for front dimensions
- The front is resistant to various oils, greases and standard detergents
- Degree of protection IP65/NEMA 4x/NEMA 12 (front) or IP20 (rear)
- Plug-type terminals for a 24 V DC power supply
- Interfaces:
  - RS485/RS422 interface for process connections (MPI, PROFIBUS DP up to 12 Mbit/s)
  - USB for mouse, keyboard, printer, barcode reader and downloading/uploading the configuration
  - Ethernet (TCP/IP) for exchanging data with a higher-level PC, connection of a network printer and downloading/uploading the configuration;
    a control link to SIMATIC S7 is possible
- Slot for SD/MultiMedia card

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Function

- Display and modification of process parameters
- Function keys (for MP 277 8“ Key and MP 277 10"Key only); for direct triggering of functions and actions. Up to 16 functions can be configured simultaneously on function keys. The function keys can be used directly as PROFIBUS DP input peripherals.
- Process display:
  - VGA resolution (640 x 480 pixels) each with 64k colors for pixels
  - vector graphics (various line objects and 2-D objects)
  - dynamic positioning and dynamic showing/hiding of objects
  - pixel-graphic displays, curves and bar displays
  - presentation of up to 8 curves in a curve field; curve graphics with paging and zoom functions for access to the history and for flexible selection of the presentation time; read-off line for determining the current values and displaying them in a table
  - comprehensive libraries (SIMATIC HMI symbol library)
  - screen objects: Slider, gauge, clock
  - cyclic function processing using timers
- Multiplex function for variables
- Signaling system:
  - bit messages and analog messages (limit value messages) as well as the Alarm S message frame procedure for SIMATIC S7 and SIMOTION
  - freely definable message classes (e.g., status/fault messages) for definition of acknowledgment response and display of message events
  - status and fault messages with message history
  - non-volatile, maintenance-free message buffer
  - preconfigured message diagram, alarm window and message line
- Archiving of messages and process values (on PC/CompactFlash Card or network drives over Ethernet):
  - various archive types: Short-term and sequence archives
  - storage of archive data in standard Windows format (CSV)
  - online evaluation of process value archives through trend curves
  - external processing using standard tools (MS Excel and MS Access) is possible
- Message log and shift log
- Print functions (see "Recommended printers")
- Language selection 16 online languages, 32 configuration languages incl. Asian and Cyrillic character sets; language-dependent texts and graphics
- Recipe management:
  - with additional data storage (on SD/MultiMedia card)
  - online/offline processing on the panel
  - storage of recipe data in standard Windows format (CSV)
  - external processing using standard tools (Microsoft Excel and Access) is possible
- PG functionality STATUS/CONTROL-VAR in conjunction with SIMATIC S5 and SIMATIC S7
- Display selection from the PLC; supports operator prompting from the PLC
- Presentation of HTML documents with MS Pocket Internet Explorer
- Visual Basic Script, flexibility thanks to the implementation of new functions including linking to variables (comparison operations, loops, etc.)
- Help texts; for process images, messages and variables
- Arithmetic functions
- Limit value monitoring; for reliable process control of inputs and outputs
- Permanent window; fixed area of screen for outputting non-screen-specific information (e.g., important process values, date and time)
- Simple maintenance and configuration thanks to:
  - backup and restoring of the configuration, operating system, data records and firmware on an SD/MultiMedia card (optional) or over Ethernet
  - backup and restoration of the configuration, operating system, data records and firmware on a PC
  - configuration download/upload over Ethernet/USB/MPI/PROFIBUS DP/modem and SD/MultiMedia card (optional)
  - automatic transfer identification
  - configuration simulation directly on the configuration computer
- Import/export of all texts incl. messages in CSV format for translation using standard text processing programs
- Centrally modifiable project-specific faceplates
- Permanent window enhanced with template concept:
  - creation of screen templates:
- Password system:
  - user-oriented access protection according to requirements of specific sectors
  - authentication with user ID and password
  - user-group-specific rights
- Service functions (optionally with "WinCC flexible /Sm@rt-Service"):
  - email generation
  - remote control of the SIMATIC HMI system based on Internet Explorer
  - web server with status HTML pages and control functions
- Client/server functions (optionally with "WinCC flexible /Sm@rt-Access"):
  - remote operation and monitoring from other SIMATIC HMI systems
  - plant-wide requests for information and archiving of process data

Configuring

Configuration is carried out with the SIMATIC WinCC flexible SP1 Standard or Advanced engineering software (see SIMATIC WinCC flexible HMI software/engineering software).

Projects created with ProTool can be transferred to WinCC flexible.

Applications/options

- WinCC flexible /Sm@rtAccess: Remote operation and monitoring as well as communication between different SIMATIC HMI systems (see HMI software/runtime software SIMATIC WinCC flexible /WinCC flexible RT options)
- WinCC flexible /Sm@rtService: Remote maintenance and servicing of machines/plants via the intranet/Internet (see HMI software/runtime software SIMATIC WinCC flexible /WinCC flexible RT options)
- WinCC flexible /OPC server: Communication with applications (e.g. MES, ERP, or applications in the office sector) from various manufacturers (see HMI software/runtime software SIMATIC WinCC flexible / WinCC flexible RT options)

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SIMATIC MP 277

Integration

The MP 277 can be connected to:

- SIMATIC S7-200/-300/-400
- SIMATIC WinAC Software/Slot PLC
- Ethernet communication with SIMATIC S7
- SIMATIC S5
- SIMATIC 505
- SINUMERIK
- SIMOTION
- PLCs from other manufacturers
  - Allen Bradley
  - Mitsubishi
  - LG GLOFA GM
  - Modicon
  - GE-Fanuc
  - Omron
- Over Ethernet (TCP/IP) to a higher-level PC, network printer
- Multi-protocol capability
- OPC XML Server (optionally with "WinCC flexible /OPC-Server")
- HTTP communication to other SIMATIC HMI systems (optionally with "WinCC flexible /Sm@rtAccess" option)
- SINUMERIK
  (optionally with "SINUMERIK HMI copy licence WinCC flexible CE"; "SINUMERIK HMI engineering package WinCC flexible" is additionally required for configuring;
  For further details, see Catalog NC 60)

Note:
Further information can be found under "System interfaces".

Technical specifications

	MP 277 8" touch	MP 277 10" touch	MP 277 8" keys	MP 277 10" keys
Power supply				
Power supply	24 V DC	24 V DC	24 V DC	24 V DC
Permissible range	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC
Memory				
Type	Flash / RAM	Flash / RAM	Flash / RAM	Flash / RAM
Usable memory for project data / options	6 MB user memory	6 MB user memory	6 MB user memory	6 MB user memory
Time				
Real-time clock				
• Type	Hardware clock, battery-backed and synchronized	Hardware clock, battery-backed and synchronized	Hardware clock, battery-backed and synchronized	Hardware clock, battery-backed and synchronized
Configuration				
Configuring tool	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)	WinCC flexible Standard Version 2005 SP 1 or higher (to be ordered separately)
Display				
Display type	TFT Liquid Crystal Display (LCD), 65536 colors	TFT Liquid Crystal Display (LCD), 65536 colors	TFT Liquid Crystal Display (LCD), 65536 colors	TFT Liquid Crystal Display (LCD), 65536 colors
Size	7.5 "	10.4 "	7.5 "	10.4 "
Resolution (WxH in pixels)	640 x 480	640 x 480	640 x 480	640 x 480
MTBF of background lighting (at 25 °C)	approx. 50000 h	approx. 50000 h	approx. 50000 h	approx. 50000 h
Operating mode				
Operating elements	touch screen	touch screen	membrane keyboard	membrane keyboard
Function keys, programmable			26 function keys, 26 with LED	36 function keys, 26 with LED
System keys			36	36
Touch screen	analog, resistive	analog, resistive		
Numeric/alphanumeric input	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes
Connection for mouse/keyboard/ barcode reader	USB / USB / USB	USB / USB / USB	USB / USB / USB	USB / USB / USB
Degree of protection				
Front	IP 65	IP 65	IP 65	IP 65
Rear	IP 20	IP 20	IP 20	IP 20
Certificates & Standards				
Certification	CE, UL	CE, UL	CE, UL	CE, UL
Ambient conditions				
Mounting position	vertically	vertically	vertically	vertically
max. relative humidity (in %)	80%	80%	80%	80%
Temperature				
• operation	0 to +50 °C	0 to +50 °C	0 to +50 °C	0 to +50 °C
• transportation, storage	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C

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Technical specifications (continued)

	MP 277 8" touch	MP 277 10" touch	MP 277 8" keys	MP 277 10" keys
I/Os / Options				
I/O	printer, barcode reader	printer, barcode reader	printer, barcode reader	printer, barcode reader
Output mode				
LED color			green	green
Interfaces				
Interfaces	1 x RS422, 1 x RS485 (12 Mbit/s max.)	1 x RS422, 1 x RS485 (12 Mbit/s max.)	1 x RS422, 1 x RS485 (12 Mbit/s max.)	1 x RS422, 1 x RS485 (12 Mbit/s max.)
SD / Multi Media Card Slot	Yes	Yes	Yes	Yes
USB	2 x USB (Universal Serial Bus)	2 x USB (Universal Serial Bus)	2 x USB (Universal Serial Bus)	2 x USB (Universal Serial Bus)
Ethernet	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
Operating systems				
Operating system	Windows CE	Windows CE	Windows CE	Windows CE
Processors				
Processor	Arm	Arm	Arm	Arm
Functionality with WinCC flexible				
Applications/Options	Internet Explorer, Sm@rt Service, Sm@rt Access	Internet Explorer, Sm@rt Service, Sm@rt Access	Internet Explorer, Sm@rt Service, Sm@rt Access	Internet Explorer, Sm@rt Service, Sm@rt Access
Number of Visual Basic Scripts	50	50	50	50
Scheduler	Yes	Yes	Yes	Yes
Help system	Yes	Yes	Yes	Yes
Status/control	with SIMATIC S7	with SIMATIC S7	with SIMATIC S7	with SIMATIC S7
Signaling system				
• Number of messages	4,000	4,000	4,000	4,000
• Bit messages	Yes	Yes	Yes	Yes
• Analog messages	Yes	Yes	Yes	Yes
• Message buffer	Ring buffer, 512 entries each, maintenance-free, retentive	Ring buffer, 512 entries each, maintenance-free, retentive	Ring buffer, 512 entries each, maintenance-free, retentive	Ring buffer, 512 entries each, maintenance-free, retentive
Recipes				
• Recipes	300	300	300	300
• Data records per recipe	500	500	500	500
• Entries per data record	1000	1000	1000	1000
• Recipe memory	64 KB integrated Flash, expandable using optional multimedia card	64 KB integrated Flash, expandable using optional multimedia card	64 KB integrated Flash, expandable using optional multimedia card	64 KB integrated Flash, expandable using optional multimedia card
Number of process screens				
• Process screens	500	500	500	500
• Variables	2.048	2.048	2.048	2.048
• Limit values	Yes	Yes	Yes	Yes
• Multiplexing	Yes	Yes	Yes	Yes
Picture elements				
• Text objects	10000 text elements	10000 text elements	10000 text elements	10000 text elements
• Grafics objects	bitmaps, icons, vector graphics	bitmaps, icons, vector graphics	bitmaps, icons, vector graphics	bitmaps, icons, vector graphics
• Dynamic objects	diagrams, bar graphs, slides, analog displays, hidden buttons	diagrams, bar graphs, slides, analog displays, hidden buttons	diagrams, bar graphs, slides, analog displays, hidden buttons	diagrams, bar graphs, slides, analog displays, hidden buttons
Lists				
• Text lists	500	500	500	500
• Graphics lists	400	400	400	400
• Libraries	Yes	Yes	Yes	Yes

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SIMATIC MP 277

Technical specifications (continued)

	MP 277 8" touch	MP 277 10" touch	MP 277 8" keys	MP 277 10" keys
Archiving				
• Number of archives per project	20	20	20	20
• Number of process tags per archive	20	20	20	20
• Number of entries per archive	10,000	10,000	10,000	10,000
• Memory location	SD and Multi Media Card	SD and Multi Media Card	SD and Multi Media Card	SD and Multi Media Card
Security				
• Number of user groups	50	50	50	50
• Number of access rights	32	32	32	32
• Password exportable	Yes	Yes	Yes	Yes
Data carrier support				
• Multi Media Card	Yes	Yes	Yes	Yes
Logging				
• Logging/Printing	Messages, report/log, color print, hardcopy	Messages, report/log, color print, hardcopy	Messages, report/log, color print, hardcopy	Messages, report/log, color print, hardcopy
Fonts				
• Keyboard fonts	US American (English)	US American (English)	US American (English)	US American (English)
Languages				
• Online languages	16	16	16	16
• Project languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Szech, Turkish, Hungarian
• Character set	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable	Tahoma, Arial, Courier New, WinCC flexible Standard, ideographic languages, all freely scalable
Transfer (Upload/Download)				
• Transfer of the configuration data	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition	MPI/PROFIBUS DP, USB, Ethernet, automatic transfer recognition
Process connecting				
• Connection to controller	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemechanique (Uni-Telway), OMRON (LINK/Multilink), Modicon (Modbus)	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemechanique (Uni-Telway), OMRON (LINK/Multilink), Modicon (Modbus)	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemechanique (Uni-Telway), OMRON (LINK/Multilink), Modicon (Modbus)	S5, S7-200, S7- 300/400, 505, SINUMERIK, SIMOTION, Allen Bradley (DF1), Allen Bradley (DF485), Mitsubishi (FX), Telemechanique (Uni-Telway), OMRON (LINK/Multilink), Modicon (Modbus)
Dimensions				
Housing front (W x H)	240 mm x 180 mm	325 mm x 263 mm	352 mm x 221 mm	483 mm x 310 mm
Installation cutout/installation depth (W x H x D) in mm	226 mm x 166 mm / 60 mm depth	310 mm x 248 mm / 61 mm depth	338 mm x 206 mm / 61 mm depth	434 mm x 291 mm / 60 mm depth
Weight				
Weight	1.61 kg	2.65 kg	2.25 kg	4.95 kg

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Ordering data

		Order No.
SIMATIC MP 277		
Multi Panel with		
• 8" color TFT display, Touch	F	**6AV6 643-0CB01-1AX0**
• 10" color TFT display, Touch	F	**6AV6 643-0CD01-1AX0**
• 8" color TFT display, Keyboard	F	**6AV6 643-0DB01-1AX0**
• 10" color TFT display, Keyboard	F	**6AV6 643-0DD01-1AX0**
incl. mounting accessories		
Configuring		
with SIMATIC WinCC flexible		see Section 4
Configuration set	D	**6AV6 622-0BA01-0AA0**
Consisting of:		
• WinCC flexible Standard engineering software		
• Documentation DVD, 5 languages (English, French, German, Italian, Spanish)		
• RS232 cable (5 m)		
• MPI cable, 5 m		
Applications/options		
When configuring with WinCC flexible		
• WinCC flexible/Sm@rtAccess		see Section 4
• WinCC flexible/Sm@rtService		see Section 4
• WinCC flexible/OPC Server		see Section 4
Documentation (to be ordered separately)		
Operating instructions MP277		
• German		**6AV6 691-1DJ01-0AA0**
• English		**6AV6 691-1DJ01-0AB0**
• French		**6AV6 691-1DJ01-0AC0**
• Italian		**6AV6 691-1DJ01-0AD0**
• Spanish		**6AV6 691-1DJ01-0AE0**
WinCC flexible Compact/Standard/Advanced User Manual		
• German		**6AV6 691-1AB01-0AA0**
• English		**6AV6 691-1AB01-0AB0**
• French		**6AV6 691-1AB01-0AC0**
• Italian		**6AV6 691-1AB01-0AD0**
• Spanish		**6AV6 691-1AB01-0AE0**
User Manual WinCC flexible Communication		
• German		**6AV6 691-1CA01-0AA0**
• English		**6AV6 691-1CA01-0AB0**
SIMATIC HMI Manual Collection	B	**6AV6 691-1SA01-0AX0**
Electronic documentation, on DVD		
5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI		

	Order No.
Accessories for supplementary ordering	
Memory cards	see HMI accessories
Cover foils	see HMI accessories
Service packages	see HMI accessories
Connectors	see HMI accessories
Configuration cable	see HMI accessories
System interfaces	see HMI accessories
Connecting cables	see HMI accessories

B) Subject to export regulations AL: N and ECCN: EAR99S
D) Subject to export regulations AL: N and ECCN: 5D992B1
F) Subject to export regulations AL: N and ECCN: 5D002ENC3

More information

Additional information is available in the Internet under:
http://www.siemens.com/mp

Note:
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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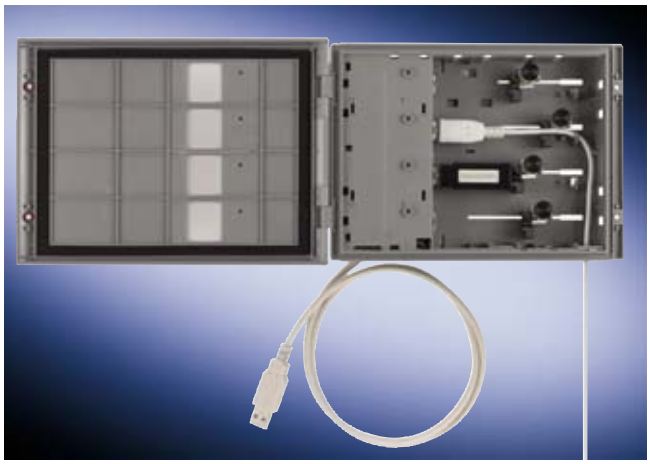
Industrial USB Hub 4

Overview



Industrial USB Hub 4, open

- The Industrial USB Hub 4 is essentially used as a USB hub for the connection of peripherals to Multi Panels and Panel PCs with an integral USB interface
- USB peripherals can be connected to the panel and operated via the USB Hub 4 without opening the cabinet door
- The Industrial USB Hub 4 differs from commercially available USB hubs mainly in its suitability for use in rugged industrial environments (IP65).

Design

The use of the Industrial USB Hub 4,

- permits the simultaneous connection of as many as four peripheral devices such as USB stick, mouse, keyboard, printer or barcode reader to the panel .
- increases the availability of the system to be operated. The cabinet door no longer has to be opened in order to connect to the peripherals. The unit can be operated from the Panel PC and the Multi Panel without interruption.

In addition, the Industrial USB Hub4 has the following features:

- Inspection window for each interface
- Vibration-proof restraint of connected USB cables and USB sticks
- One LED per interface for checking the data traffic
- Sufficient interior space for easy insertion and removal of connections
- Facility for attachment to a DIN rail

Integration

The Industrial USB Hub 4 is suitable for connection to:

- MP 277
- SIMATIC Panel PC

Technical specifications

	6AV6 671-3AH00-0AX0
Power supply	
Power supply	24 V DC
Permissible range	+20.4 to +28.8 V DC
Degree of protection	
Front IP65	Yes
Rear IP20	Yes
Certificates & Standards	
Certification	CE
Ambient conditions	
max. relative humidity	90%
Temperature	
• Operation (vertical installation)	0 to +50 °C
• Transportation, storage	-20 to +60 °C
Interfaces	
Number of interfaces/acc. to USB	4; 500 mA each, e.g. mouse, keyboard, printer, USB stick
General information	
Product/product range	MP 277, Panel PC
Dimensions	
External dimensions (W x T x D) in mm	212 x 156 x 50
Mounting cutout/device depth (W x T x D)	182 mm x 138 mm / 50 mm depth
Weight	
Weight	0.5 kg

Ordering data

		Order No.
Industrial USB Hub 4	A	**6AV6 671-3AH00-0AX0**
Service pack for Industrial USB Hub 4		**6AV6 671-3EA01-0AX0**

A) Subject to export regulations AL: N and ECCN: EAR99H

More information

Note for SIMATIC Panel PCs

The Industrial USB Hub 4 is approved for the Windows 2000/XP operating systems. The appropriate drivers are supplied with the operating system software.

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Overview

Example – connecting cables

You can find Order Nos. for the connecting cables required to link SIMATIC Panels under selection and ordering data.

Key

P = PROCESS COUPLING

p = optional process coupling

D = DOWNLOAD (update operating system, project, …)

U = initial program loading
(Bottling when operating system is missing or damaged)

MBP = Mobile Panel

	S5-TTY (PG-S5)	S5-TTY (TD/OP-S5)	S7 PG702	RS232 third-party	TD-PPI (incl. voltage)	RS232 null modem	RS232/PPI multi-master cable	USB/PPI multi-master cable	MPI (PG-S7)
	6ES5 734-2xxxx	6XV1 440-2Axxx	6ES7 705-0AA00-7BA0	6XV1 440-2Kxxx	6ES7 901-3EB10-0XA0	6ES7 901-1BF00-0XA0	6ES7 901-3CB30-0XA0	6ES7 901-3DB30-0XA0	6ES7 901-0BF00-0AA0
PP7	-	-	-	-	-	-	-	-	-
PP17 I	-	-	-	-	-	-	-	-	-
PP17-II	-	-	-	-	-	-	-	-	-
TD100C	-	-	-	-	P	-	D/U	-	-
TD200	-	-	-	-	P	-	D/U	-	P
TD200C	-	-	-	-	P	-	D/U	-	P
TD17	D	P	-	P	-	D/U	-	-	P
TP070	-	-	-	-	-	-	D/U	-	-
TP170micro	-	-	-	-	-	-	D/U	-	-
TP170A	-	P	-	-	-	D/U	-	-	P
TP177micro	-	-	-	-	-	-	D/U	D/U	-
TP177A	-	P	-	P	-	-	D/U	D/U	P
TP170B mono	-	P	-	P	-	D/U	-	-	P/D
TP170B color	-	P	-	P	-	D/U	-	-	P/D
TP177B DP	-	-	-	P 3)	-	-	D/U	-	P/D
TP177B PN/DP	-	-	-	P 3)	-	-	D/U	-	P/D
TP270-6	-	P	-	P	-	D/U	-	-	P/D
TP277-6	-	-	-	P 3)	-	-	D/U	-	P/D
MP270-6 T	-	P	-	P	-	D/U	-	-	P/D
MP277-8 T	-	-	-	P 3)	-	-	D/U	-	P/D
TP270-10	-	P	-	P	-	D/U	-	-	P/D
MP277-10 T	-	-	-	P 3)	-	-	D/U	-	P/D
MP370-12 T	-	P	-	P 3)	-	D/U	-	-	P/D
MP370-15 T	-	P	-	P 3)	-	D/U	-	-	P/D
MBP 177 DP	-	-	-	-	-	-	D/U	-	-
MBP 177 PN	-	-	-	-	-	-	D/U	-	-
MBP 277	-	-	-	-	-	-	D/U	-	-

1) With gender changer
2) Not possible with PN/IO, only with HUB/Switch
3) Only in conjunction with the RS422/232 converter

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Connecting cables

	S5-TTY (PG-S5)	S5-TTY (TD/OP-S5)	S7 PG702	RS232 third-party	TD-PPI (incl. voltage)	RS232 null modem	RS232/PPI multi-master cable	USB/PPI multi-master cable	MPI (PG-S7)
	6ES5 734-2xxxx	6XV1 440-2Axxx	6ES7 705-0AA00-7BA0	6XV1 440-2Kxxx	6ES7 901-3EB10-0XA0	6ES7 901-1BF00-0XA0	6ES7 901-3CB30-0XA0	6ES7 901-3DB30-0XA0	6ES7 901-0BF00-0AA0
OP3	-	-	P	-	P [1]	-	-	-	-
OP73micro	-	-	-	-	P	-	D/U	D/U	P/D
OP73	-	-	-	-	P	-	D/U	D/U	P/D
OP7 PP	D	P	-	P	-	-	-	-	-
OP7 DP	-	-	-	-	-	-	-	-	P
OP7 DP12	D	P	-	P	-	-	-	-	P
OP77A	-	-	-	-	-	-	D/U	D/U	P/D
OP77B		-	-	P	-	D/U	-	-	P/D
OP17 PP	D	P	-	P	-	-	-	-	-
OP17 DP	-	-	-	-	-	-	-	-	P
OP17 DP12	D	P	-	P	-	-	-	-	P
OP170B	-	-	-	-	-	D/U	-	-	P/D
OP177B DP	-	-	-	P [3]	-	-	D/U	-	P/D
OP177B PN/DP	-	-	-	P [3]	-	-	D/U	-	P/D
OP270-6	P	-	-	P	-	D/U	-	-	P/D
OP277-6	-	-	-	P [3]	-	-	D/U	-	P/D
MP277-8 K	-	-	-	P [3]	-	-	D/U	-	P/D
OP270-10	P	-	-	P	-	D/U	-	-	P/D
MP270-10 K	P	-	-	P	-	D/U	-	-	P/D
MP277-10 K	-	-	-	P [3]	-	-	D/U	-	P/D
MP370-12 K	P	-	-	P [3]	-	D/U	-	-	P/D
MBP 170	-	-	-	-	-	-	-	-	-

	DP PtP	DP Standard	DP (Mobile Panel)	PN PtP Cross	PN Ethernet	PN (Mobile Panel)	Conv. 422-232	Conv. 232-TTY	90° angular (15-contact 1:1)
	6XV1 830-0Axxx	Standard PROFIBUS (2-contact)	6XV1 440-4Axxx	6XV1 870-3RH20 [2]	Standard Ethernet CAT5	6XV1 440-4Bxxx	6AV6 671-8XE00-0AX0	6ES5 734-1BD20	6AV6 671-8XD00-0AX0
PP7	P	P	-	-	-	-	-	-	-
PP17 I	P	P	-	-	-	-	-	-	-
PP17-II	P	P	-	-	-	-	-	-	-
TD100C	-	-	-	-	-	-	-	-	-
TD200	-	-	-	-	-	-	-	-	-
TD200C	-	-	-	-	-	-	-	-	-
TD17	P	P	-	-	-	-	-	-	p/D/U
TP070	P	P	-	-	-	-	-	-	p/D/U
TP170micro	P	-	-	-	-	-	-	-	p/D/U
TP170A	P	P	-	-	-	-	-	P	p/D/U
TP177micro	P	-	-	-	-	-	-	-	p/D/U
TP177A	P	P	-	-	-	-	-	-	p/D/U
TP170B mono	P/D	P/D	-	-	-	-	-	P	p/D/U
TP170B color	P/D	P/D	-	-	-	-	-	P	p/D/U
TP177B DP	P/D	P/D	-	-	-	-	P	-	p/D/U
TP177B PN/DP	P/D	P/D	-	P/D	P/D	-	P	-	p/D/U
TP270-6	P/D	P/D	-	p/D	P/D	-	-	P	p/D/U
TP277-6	P/D	P/D	-	P/D	P/D	-	P	-	p/D/U

1) With gender changer
2) Not possible with PN/IO, only with HUB/Switch
3) Only in conjunction with the RS422/232 converter

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	DP PtP	DP Standard	DP (Mobile Panel)	PN PtP Cross	PN Ethernet	PN (Mobile Panel)	Conv. 422-232	Conv. 232-TTY	90° angular (15-contact 1:1)
	6XV1 830-0Axxx	Standard PROFIBUS (2-contact)	6XV1 440-4Axxx	6XV1 870-3RH20 2)	Standard Ethernet CAT5	6XV1 440-4Bxxx	6AV6 671-8XE00-0AX0	6ES5 734-1BD20	6AV6 671-8XD00-0AX0
MP270-6 T	P/D	P/D	-	P/D	P/D	-	-	P	p/D/U
MP277-8 T	P/D	P/D	-	P/D	P/D	-	P	-	p/D/U
TP270-10	P/D	P/D	-	p/D	P/D	-	-	P	p/D/U
MP277-10 T	P/D	P/D	-	P/D	P/D	-	P	-	p/D/U
MP370-12 T	P/D	P/D	-	P/D	P/D	-	-	P	p/D/U
MP370-15 T	P/D	P/D	-	P/D	P/D	-	-	P	p/D/U
OP3	P	-	-	-	-	-	-	-	-
OP73micro	P	-	-	-	-	-	-	-	-
OP73	P	P	-	-	-	-	-	-	-
OP7 PP	-	-	-	-	-	-	-	-	p/D/U
OP7 DP	P	P	-	-	-	-	-	-	p/D/U
OP7 DP12	P	P	-	-	-	-	-	-	p/D/U
OP77A	P	P	-	-	-	-	-	-	p/D/U
OP77B	P	P	-	-	-	-	-	P	p/D/U
OP17 PP	-	-	-	-	-	-	-	-	p/D/U
OP17 DP	P	P	-	-	-	-	-	-	p/D/U
OP17 DP12	P	P	-	-	-	-	-	-	p/D/U
OP170B	P	P	-	-	-	-	-	p	p/D/U
OP177B DP	P	P	-	-	-	-	P	-	p/D/U
OP177B PN/DP	P	P	-	P/D	P/D	-	P	-	p/D/U
OP270-6	P	p	-	p/D	P/D	-	-	P	p/D/U
OP277-6	P	P	-	P/D	P/D	-	P	-	p/D/U
MP277-8 K	P	P	-	P/D	P/D	-	P	-	p/D/U
OP270-10	P	p	-	p/D	P/D	-	-	P	p/D/U
MP270-10 K	P	P	-	P/D	P/D	-	-	P	p/D/U
MP277-10 K	P	P	-	P/D	P/D	-	P	-	p/D/U
MP370-12 K	P	P	-	P/D	P/D	-	-	P	p/D/U
MBP 170	-	-	P/D	-	-	-	-	P	-
MBP 177 DP	P/D	-	P/D	-	-	-	-	-	-
MBP 177 PN	-	-	-	-	-	P/D	-	-	-
MBP 277	-	-	P/D	-	-	P/D	-	-	-

1) With gender changer
2) Not possible with PN/IO, only with HUB/Switch
3) Only in conjunction with the RS422/232 converter

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Connecting cables

Ordering data	Order No.
Connecting cables 6ES5 731-1....	
for SIMATIC S5 (S5-90U to S5-155U), PG6xx (TTY, 20 mA)	
Standard lengths	
• 5 m	**6ES5 731-1BF00**
• 10 m	**6ES5 731-1CB00**
Custom lengths	
• Max. 200 m	**6ES5 731-1■■■0**
Connecting cables 6ES5 731-6....	
for SIMATIC S5, interface adapter for PC 16-20 required for the connection between PG and connecting cable	**6ES5 731-6AG00**
Connecting cables 6ES5 734-1....	
for SIMATIC S5, connecting cable between PLC 15-pin and PC 25-pin	
Standard lengths	
• 3.2 m	**6ES5 734-1BD20**
Connecting cables 6ES5 734-2....	
for SIMATIC S5, connecting cable between PG 7 and S5-90U to S5-155U	
Standard lengths	
• 10 m	**6ES5 734-2CB00**
Custom lengths	
• max. 1000 m	**6ES5 734-2■■■0**
Connecting cables 6ES7 705-...	
for SIMATIC S7 Connecting cable between PG 702 and SIMATIC S7 via PPI/MPI	
Standard length	
• 2.5 m [1]	**6ES7 705-0AA00-7BA0**
Connecting cables 6ES7 901-0...	
for SIMATIC S7 MPI cable between SIMATIC S7 and PG via MPI	
Standard length	
• 5m [2]	**6ES7 901-0BF00-0AA0**
Connecting cables 6ES7 901-1...	
RS232 cable	
• 5 m	**6ES7 901-1BF00-0XA0**
Connecting cables 6ES7 901-3...	
Process connecting cable	**6ES7 901-3EB10-0XA0**
For connecting TD 100C or TD 200C to S7-200	
Connecting cables 6XV1 440-2A...	
Connecting cable between TD/TP/OP and PLC S5-90U to -155U	
Standard lengths	
• 3.2 m	**6XV1 440-2AH32**
• 5 m	**6XV1 440-2AH50**
• 10 m	**6XV1 440-2AN10**
• 20 m	**6XV1 440-2AN20**
• 32 m	**6XV1 440-2AN32**
• 50 m	**6XV1 440-2AN50**
Custom lengths	
Max. 1000 m	**6XV1 440-2A■■■**
Length key ↑↑↑ Please refer to Appendix of the ST80 catalog 2006	

Ordering data	Order No.
Connecting cables 6XV1 440-2K...	
Connecting cable between TD/TP/OP and SIMATIC 505 PLC 545, 555; ALLEN BRADLEY SLC500 03,04 via RS232/15-pin socket and PC via RS232/9-pin male	
Standard lengths	
• 3.2 m	**6XV1 440-2KH32**
• 5 m	**6XV1 440-2KH50**
• 10 m	**6XV1 440-2KN10**
Adapter cable 6XV1 440-2U...	
between TD/OP (RS232/15-pin socket) and non-Siemens PC cable (RS232/9-pin socket)	
• 0.3 m	**6XV1 440-2UE32**
PROFIBUS connecting cable 830-1C	
For connection of data terminal, precut/preassembled with two Sub-D connectors, 9-pin, terminated at both ends	
for PP, OP 73micro, TP 070, OP73, TP 170micro, TP 177micro, OP 77A/B, TP 170A, TP 177A, TP/OP 170B, TP/OP 177B, MP 270B	
• 1.5 m	**6XV1 830-1CH15**
• 3 m	**6XV1 830-1CH30**

1) Included in OP3 scope of delivery
2) Included in PG scope of delivery

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Ordering data	Order No.
Configuration cable 6ES5 734	
for connecting PG 7xx to SIMATIC S5-90U to S5-155U via 25-pin socket/TTY (serial) 3)	
Standard lengths	
• 5 m	**6ES5 734-2BF00**
• 10 m	**6ES5 734-2CB00**
Custom lengths	
• max. 1000 m	**6ES5 734-2■■■0**
Configuration cable 6ES7	
for connecting PC/PG/OP/TD to SIMATIC S7-200/300/400 via 9-pin male/RS232 (serial)	
• between PG 702/OP3 1) and S7-200/300/400 via PPI/MPI	**6ES7 705-0AA00-7BA0**
• between OP7/OP17/OP27 2)/TD17 and S7-200/300/400 via MPI	**6ES7 901-0BF00-0AA0**
Connecting cable 6ES7 901	
between HMI adapter and PC/TS adapter (RS232/null MODEM cable)	
for OP77B, TP 177A, TP 170B, OP 170B, TP/OP 270, MP 270, MP 370	
• 5 m	**6ES7 901-1BF00-0XA0**

		Order No.
RS232/PPI multi-master cable	A	**6ES7 901-3CB30-0XA0**
USB/PPI multi-master cable	A	**6ES7 901-3DB30-0XA0**
For connecting the S7-200 to the serial PC/OP interface		
PROFIBUS FC Standard Cable		**6XV1 830-0EH10**
For connection to PPI; standard type with special design for quick mounting, 2-core, shielded, sold by the meter, max. delivery unit 1000 m, minimum ordering quantity 20 m		
Industrial Ethernet TX XP Cord RJ45/RJ45		
Crossed TP cable 4 x 2, preassembled with 2 x RJ45 connectors		
• 1 m		**6XV1 870-3RH10**
• 6 m		**6XV1 870-3RH60**
• 10 m		**6XV1 870-3RN10**

Cable assignments can be found on the Internet in the online help of ProTool and WinCC flexible and under FAQs

A) Subject to export regulations AL: N and ECCN: EAR99H

1) Included in OP3 scope of delivery
2) Included in PG scope of delivery
3) Except OP3 and OP7/DP

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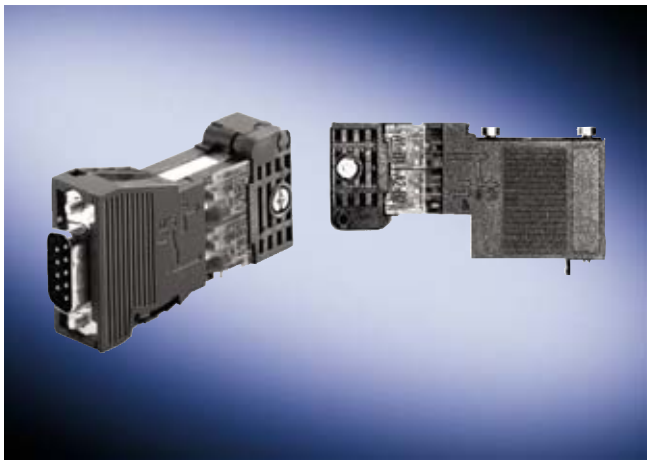
RS 485 bus connectors

Overview



- This is used to connect PROFIBUS stations to the PROFIBUS bus cable
- Easy installation
- The insulation piercing method of the FastConnect connectors reduces installation time considerably
- Integrated matching resistors (not for 6ES7 972-0BA30-0XA0)
- Connection of PG using a special bus connector is possible

Ordering data

	Order No.
Bus connector RS485 with axial cable outlet (180°) For the industrial PC, SIMATIC HMI OP, OLM; max transmission rate 12 Mbit/s	**6GK1 500-0EA02**
Bus connector RS485 with 90° cable outlet With screw-type terminals, max. transmission rate 12 Mbit/s	
• without PG interface	**6ES7 972-0BA12-0XA0**
• with PG interface	**6ES7 972-0BB12-0XA0**
Bus connector RS485 with angled cable outlet (35°) With screw-type terminals, max. transmission rate 12 Mbit/s	
• without PG interface	**6ES7 972-0BA41-0XA0**
• with PG interface	**6ES7 972-0BB41-0XA0**
Bus connector RS485 with 30° cable outlet With screw-type terminals, low-cost version, max. transmission rate 1.5 Mbit/s	**6ES7 972-0BA30-0XA0**
PROFIBUS FastConnect bus connector RS485 with 90° cable outlet With insulation-piercing terminals, max. transmission rate 12 Mbit/s	
• without PG interface	**6ES7 972-0BA50-0XA0**
• with PG interface	**6ES7 972-0BB50-0XA0**

		Order No.
PROFIBUS FastConnect bus connector RS485 with 35° cable outlet With insulation-piercing terminals, max. transmission rate 12 Mbit/s		
• without PG interface	A	**6ES7 972-0BA60-0XA0**
• with PG interface		**6ES7 972-0BB60-0XA0**
PROFIBUS FastConnect bus connector RS485 Plug 180 With insulation-piercing terminals and 180° cable outlet for the industrial PC, SIMATIC HMI OP, OLM; max transmission rate 12 Mbit/s		**6GK1 500-0FC00**
SIMATIC S5/S7 plug-in cable for PROFIBUS Preassembled with two 9-pole Sub-D connectors; max. transmission rate 12 Mbit/s; 3 m		**6ES7 901-4BD00-0XA0**
Manual for PROFIBUS networks Paper version Network architecture, project management, network components, mounting		
• German		**6GK1 970-5CA20-0AA0**
• English		**6GK1 970-5CA20-0AA1**
SIMATIC NET Manual Collection Electronic manuals for communication systems, communication protocols and communication products on CD-ROM German/English		**6GK1 975-1AA00-3AA0**

A) Subject to export regulations AL: N and ECCN: EAR99H

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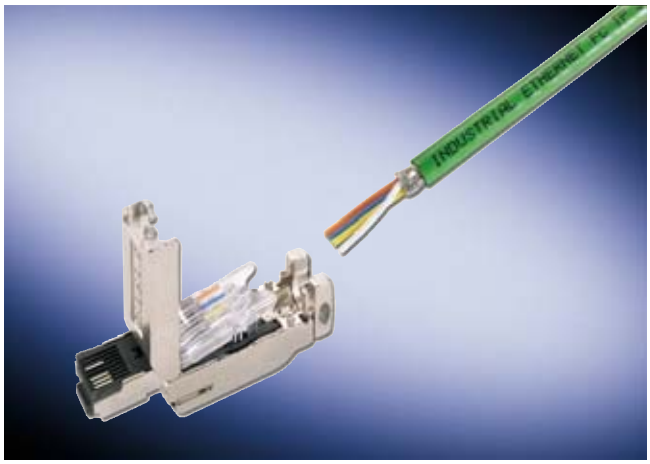
Overview



- Implementation of direct device connections over distances of up to 100 m with Industrial Ethernet FC installation cable 2 x 2 without patching
- Easy connection (insulation displacement contacts) for 4-core Twisted Pair installation cables (100 Mbit/s) without the need for special tools
- Error-preventing connection technique thanks to visible connection area as well as colored blade terminals
- Industry-compatible design (rugged metal housing, no easily lost small parts)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables
- Compatible to the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug connector possible through latching of plug on device housing, e.g. with SCALANCE X, SCALANCE S, ET 200S.

Ordering data

	Order No.
IE FC RJ45 Plug 180	
RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface	
• 1 pack = 1 unit	**6GK1 901-1BB10-2AA0**
• 1 pack = 10 units	**6GK1 901-1BB10-2AB0**
• 1 pack = 50 units	**6GK1 901-1BB10-2AE0**
IE FC RJ45 Plug 90	
RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 90° cable outlet; e.g. for ET 200S	
• 1 pack = 1 unit	**6GK1 901-1BB20-2AA0**
• 1 pack = 10 units	**6GK1 901-1BB20-2AB0**
• 1 pack = 50 units	**6GK1 901-1BB20-2AE0**
IE FC RJ45 Plug 145	
RJ45 plug-in connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; with 145° cable outlet; e.g. for SIMOTION and SINAMICS	
• 1 pack = 1 unit	**6GK1 901-1BB30-0AA0**
• 1 pack = 10 units	**6GK1 901-1BB30-0AB0**
• 1 pack = 50 units	**6GK1 901-1BB30-0AE0**

	Order No.
IE FC stripping tool	**6GK1 901-1GA00**
Preadjusted stripping tool for fast stripping of Industrial Ethernet FC cables	
IE FC TP Standard Cable GP 2 x 2 (Type A)	
4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug; PROFINET-compatible; with UL approval;	
Sold by the meter	
max. quantity 1,000 m; minimum order 20 m	**6XV1 840-2AH10**
Preferred length	
• 1000 m	**6XV1 840-2AU10**
IE FC TP Flexible Cable GP 2 x 2 (Type B)	**6XV1 870-2B**
4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/ IE FC RJ45 Plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. quantity 1000 m, minimum order 20 m	

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SIMATIC Mobile Panel accessories

Overview

Replacement keys for Mobile Panels

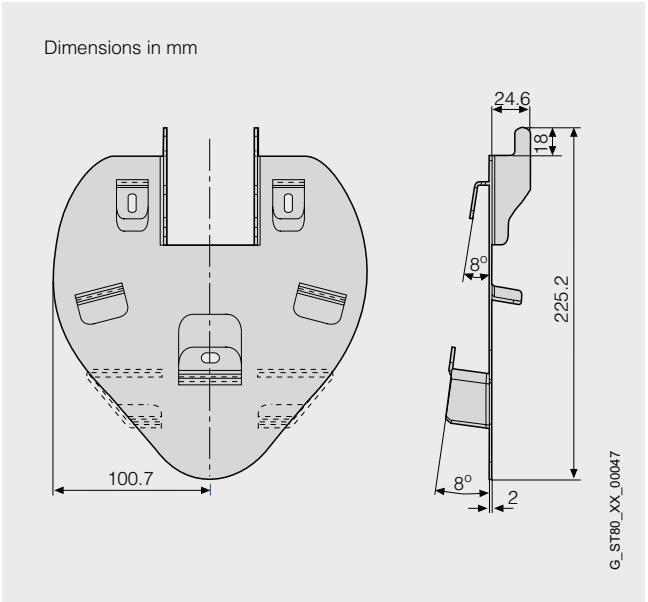
Wall-mounting bracket for Mobile Panel, front view and side view

Ordering data

	Order No.
Replacement keys for Mobile Panels (pack of 10 keys)	**6AV6 574-1AG04-4AA0**
Wall mounting bracket for Mobile Panels	**6AV6 574-1AF04-4AA0**

Dimension drawings

Dimensions in mm



SIMATIC Mobile Panel wall-mounting bracket

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Overview

Technical specifications

	DP Connection Box for Mobile Panels (MPI/PROFIBUS)		PN Connection Box for Mobile Panels (PROFINET)	
	Basic	**Plus**	**Basic**	**Plus**
Power supply				
Power supply	24 V DC	24 V DC	24 V DC	24 V DC
Permissible range	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC	+20.4 to +28.8 V DC
Rated current	0.4 A	0.5 A	0.4 A	0.5 A
Power	10 W	12 W		
Expanion for operator-process communication				
Hot swapping	with emergency stop circuit interrupt	without emergency stop circuit interrupt	with emergency stop circuit interrupt	without emergency stop circuit interrupt
• STOP pushbutton monitoring	No	Yes	No	Yes
• Address ID	Yes	Yes	Yes	Yes
Degree of protection				
Housing acc. to EN 60529	IP65	IP65	IP65	IP65
Certificates & Standards				
Certification	CE, cULus, C-Tick, NEMA 4/12	CE, cULus, C-Tick, NEMA 4/12	CE, cULus, C-Tick, NEMA 4/12	CE, cULus, C-Tick, NEMA 4/12
Ambient conditions				
max. relative humidity (in %)	85%	85%	85%	85%
Temperature				
• operation	0 to +50 °C	0 to +50 °C	0 to +50 °C	0 to +50 °C
• transportation, storage	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
Interfaces				
Interfaces	1 x RS232, 1 x RS422, 1 x RS485 (12 Mbit/s max.)	1 x RS232, 1 x RS422, 1 x RS485 (12 Mbit/s max.)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
Functionality with WinCC flexible				
• Connection point identification	Yes	Yes	Yes	Yes
Dimensions				
External dimensions (W x H x D) in mm	160 x 120 x 70	160 x 120 x 70	230 x 120 x 80	230 x 120 x 80
Weight				
Weight	0.35 kg	0.4 kg	0.45 kg	0.5 kg

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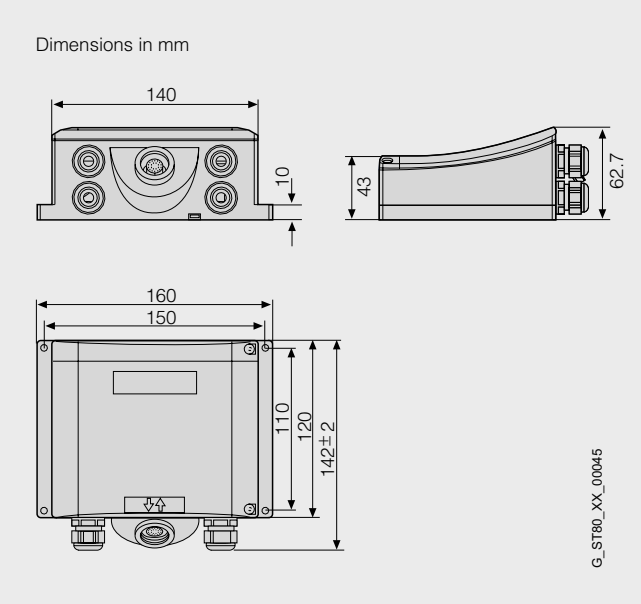
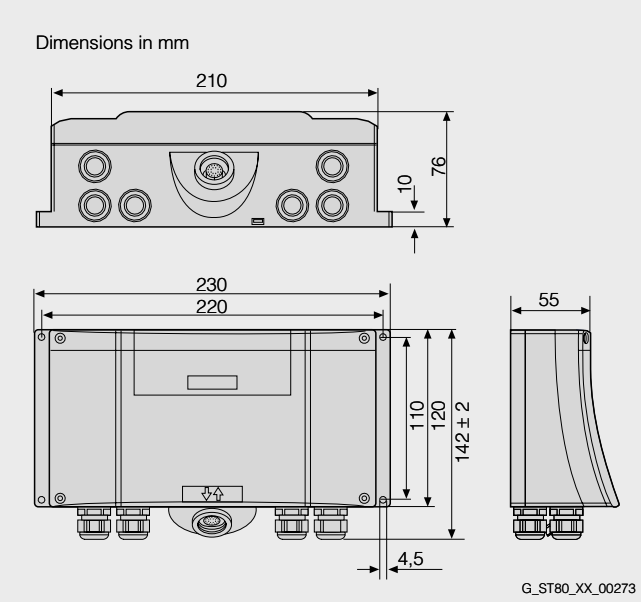
Connection boxes

Dimension drawings



DP connection box for SIMATIC Mobile Panels (177/277)



PN connection box for SIMATIC Mobile Panels (177/277)

Ordering data

		Order No.
DP connection box for Mobile Panels 177/277 (MPI/PROFIBUS)		
• Basic	A	**6AV6 671-5AE00-0AX0**
• Plus	A	**6AV6 671-5AE10-0AX0**

A) Subject to export regulations AL: N and ECCN: EAR99H

PN connection box for Mobile Panels 177/277 (PROFINET)		
• Basic	A	**6AV6 671-5AE01-0AX0**
• Plus	A	**6AV6 671-5AE11-0AX0**

A) Subject to export regulations AL: N and ECCN: EAR99H

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Overview

The following memory cards are available:

PC card adapter with Compact Flash Card

CompactFlash Card, 128 MB

Multi Media Card, 64 MB

USB 2.0 memory stick (USB Flash Drive) with 512 MB memory
For MP277 and Mobile Panel 277.

Ordering data

		Order No.
Memory cards		
• PC Card, 128 MB, comprising: PC Card Adapter with Compact Flash Card	A	**6AV6 574-2AC00-2AF0**
• CompactFlash Card, 128 MB		**6AV6 574-2AC00-2AA0**
• Multi Media Card, 64 MB	A	**6AV6 671-1CB00-0AX0**
• USB 2.0 memory stick (USB Flash Drive) with 512 MB memory for MP277 and Mobile Panel 277	A	**6ES7 648-0DC20-0AA0**

A) Subject to export regulations AL: N and ECCN: EAR99H

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Converters/adapters

Overview

The following converter/adapter types are available:

PC converter RS232 to TTY

RS422 to RS232 converter

90° angle adapter, 9-pin for RS422/485

Ordering data

		Order No.
Converter		
RS232 to TTY converter, 20 mA between TD/OP/TP and S5-90U to S5-155U, for TP/OP 170B, TP/OP 270, MP 270B		**6ES5 734-1BD20**
RS422 to RS232 converter, V.24 between TD/TP/OP and non-Siemens PLC with RS232 interface, for TP 177B, OP 177B, TP/OP 277-6, MP 277-8T/K, MP 277-10T/K	A	**6AV6 671-8XJ00-0AX0**
90° angle adapter between TD/OP and connecting cable		**6XV1 440-2DE32**
90° angle adapter, 9-pin for RS422/485		**6AV6 671-8XD00-0AX0**

A) Subject to export regulations AL: N and ECCN: EAR99H

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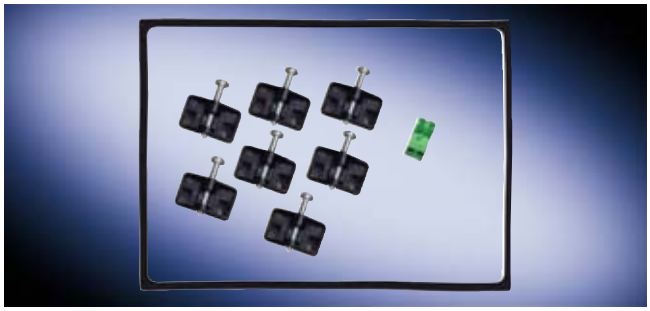
Overview

The following service packs are available:

- PP7/17
- TD 17, OP 7/17
- OP 73micro, OP 73, OP 77A/B
- TP 170micro, TP 070, TP 170A/B, OP 170B
- TP 177micro, TP 177A, TP/OP 177B
- Mobile Panels 177/277
- TP/OP 270 6", MP 270B 6" Touch/Key
- TP 270 10", OP 270 10", MP 270B 10" Touch/Key
- TP 277 6", OP 277 6"
- MP 277 8" Touch/Key, MP 277 10" Touch/Keys
- MP 270B Touch, MP 370 Keys, TP 270 10", C7 636 Touch
- MP 370 Touch



Example for service pack

Option pack for Mobile Panel
(Component of the service package for Mobile Panel 277)

Ordering data

	Order No.
Service packs for PP7/17 Consisting of: • 1 PP7 gasket • 1 PP17-I/PP17-II gasket • 5 tensioning clamps • PP7 plug-in terminal strip • PP17-I/PP17-II plug-in terminal strip	**6AV3 678-3XC30**
Service packs for TD17, OP7/17 Consisting of: • 1 TD17 gasket • 1 OP7 gasket • 1 OP17 gasket • 5 tensioning clamps • Plug-in terminal block (twin block)	**6AV3 678-1CC10**
Service packs for OP 73micro, OP 73, OP 77A/B, Consisting of: • Installation sealings • 5 tensioning clamps • Plug-in terminal block (twin block)	**6AV6 671-1XA00-0AX0**
Service packs for TP 170micro, TP070, TP 170A/B, OP 170B Consisting of: • Installation sealings • 2 sets of labeling strips for OPs • 7 tensioning clamps • Plug-in terminal strip (twin block)	**6AV6 574-1AA00-4AX0**
Service packs for TP 177micro, TP 177A, TP/OP 177B Consisting of: • Installation sealings • 7 tensioning clamps • Plug-in terminal block (twin block)	**6AV6 671-2XA00-0AX0**
Service packs for Mobile Panels 177/277 Consisting of: • Blanking plugs for cable duct • 2 x cable glands for connection box • 1 set of screws for connection box cover • 2 x terminal box (12-pin) • 1 x terminal box (3-pin) • Blanking cap for connection box	**6AV6 574-1AA04-4AA0**

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Service packages

Ordering data	Order No.
Service packs for TP 270 6", OP 270 6", MP 270B 6" Touch/Key Consisting of: • Installation sealings • 2 sets of labeling strips for OPs • 7 tensioning clamps • Plug-in terminal strip (twin block)	**6AV6 574-1AA00-4AX0**
Service packs for OP 270 10", MP 270B 10" Key Consisting of: • Installation sealings • 7 tensioning clamps • Plug-in terminal block (twin block)	**6AV6 574-1AA00-2DX0**
Service pack for MP 277 8" Touch Consisting of: • Mounting seal • 2 sets of labeling strips (for OPs) • 7 tensioning clamps • Plug-in terminal strip (twin block)	**6AV6 574-1AA00-4AX0**
Service pack for MP 277 8" Key Consisting of: • Mounting seal • 2 sets of labeling strips • 10 tensioning clamps • Plug-in terminal strip (twin block) • Socket wrench	**6AV6 574-1AA00-2DX0**
Service pack for MP 277 10" Touch Consisting of: • Mounting seal • 10 tensioning clamps • Plug-in terminal strip (twin block) • Socket wrench	**6AV6 574-1AA00-2CX0**

	Order No.
Service pack for MP 277 10" Key Consisting of: • Mounting seal • 2 sets of labeling strips • 10 tensioning clamps • Plug-in terminal strip (twin block) • Socket wrench	**6AV6 574-1AA00-2DX0**
Service packs for MP 270B Key, MP 370 Touch, TP 270 10", C7 636 Touch Consisting of: • Installation sealings • 10 tensioning clamps • Plug-in terminal block (twin block) • Socket wrench	**6AV6 574-1AA00-2CX0**
Service packs for MP 370 Keys Consisting of: • Mounting seals • 2 sets of labeling strips for OPs • 7 tensioning clamps • Plug-in terminal block (twin block) • Socket wrench	**6AV6 574-1AA00-2BX0**
Service pack for Industrial USB Hub 4	**6AV6 671-3EA01-0AX0**
Key labeling strips for MP 370 Keys for function keys, without labeling, 2 sets each (plastic)	**6AV6 574-1AB00-2BA0**
Key labeling strips for Mobile Panel 277 Pack for 6 devices (2 sheets with 3 sets each) with spare adhesive labels for cover caps	**6AV6 671-5BF00-0AX0**

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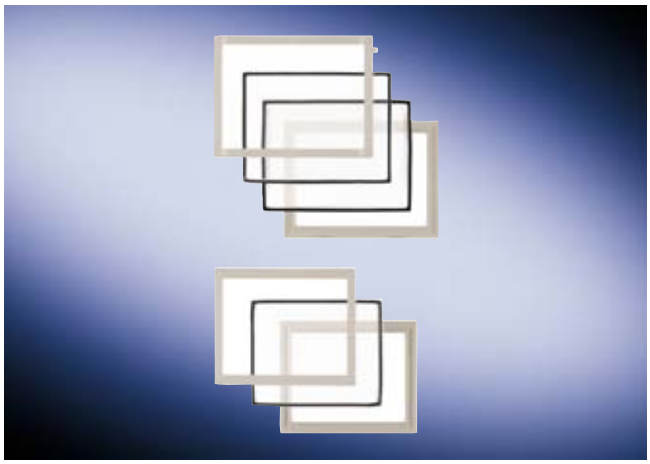
Overview



Protective covers for:
- TP 070
- TP 170micro
- TP 177micro
- TP 170A/B
- TP 177A/B
- TP 270 6":
- MP 270B 6" Touch
- TP 2776"
- OP 77
- OP 177B

Ordering data

Ordering data	Order No.
Protective covers for TP 070, TP 170micro, TP 177micro, TP 170A/B, TP 177A/B, TP 270 6“, MP 270 6“ Touch, TP 277 6" (2 sets) Consisting of: • 2 cover frames • 2 base frames • 2 cover foils, molded (for TP 070, TP 170micro, TP 170A/B) • 2 flat cover foils (for TP 177micro, TP 177A/B, TP 270 6“, MP 270 6“ Touch)	**6AV6 574-1AE00-4AX0**
Protective covers for OP 77 (2 sets) Consisting of: • 2 cover frames • 2 base frames • 2 cover foils	**6AV6 671-1AJ00-0AX0**
Protective covers for OP 177B (2 sets) Consisting of: • 2 cover frames • 2 base frames • 2 cover foils	**6AV6 671-2DJ00-0AX0**

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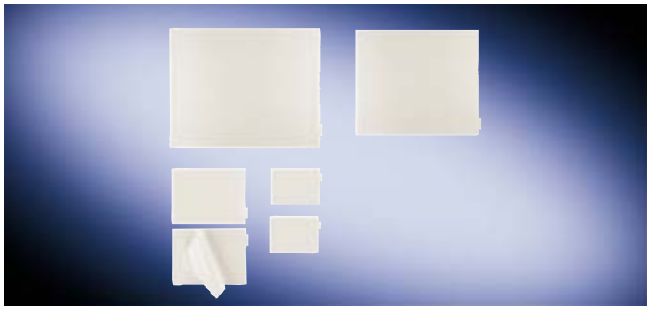
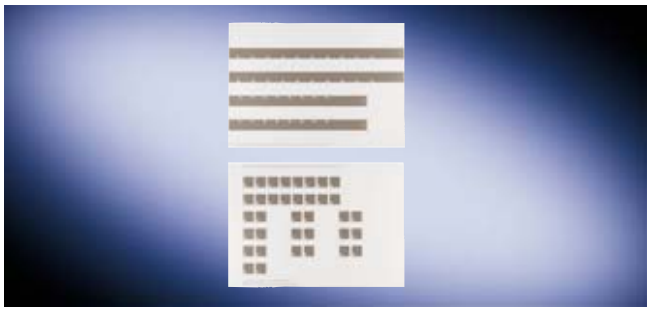
Cover foils

Overview



Cover foils for:
- TP 070, TP 170A/B
- Mobile Panel 177/277
- TP 177micro, TP 177A/B, OP 177B, TP 270 6", MP 270 6" Touch
- TP 270 10", TP 277 6", MP 270B 10", MP 370 12" Touch
- MP 370 15" Touch
- MP 277

Protective pocket for labeling strips for Mobile Panel 170/177



Labeling strips for MP 370

Ordering data

Ordering data	Order No.
Blank foils for TD 100C For printing customized keyboard layouts; 6 perforated foils per sheet; 10 sheets per packing unit	**6ES7 272-1BF00-7AA0**
Blank foils for TD 200C A For printing customized keyboard layouts; 3 perforated foils per sheet; 10 sheets per packing unit	**6ES7 272-1AF00-7AA0**
Cover foil for TP 070, TP 170A/B (pack of 10 each)	**6AV6 574-1AD00-4AX0**
Cover foil for TP 177micro, TP 177A/B, OP 177B (pack of 10 each)	**6AV6 671-2XC0-0AX0**
Cover foil for Mobile Panel 177 (pack of 10 each)	**6AV6 574-1AD04-4AA0**
Cover foil for Mobile Panel 277 Tough film to protect the touch display from dirt and scratches (set of 2)	**6AV6 671-5BC00-0AX0**
Cover foil for TP 270 6", TP 277 6", MP 270B 6" Touch (pack of 10 each)	**6AV6 574-1AD00-4DX0**
Cover foil for TP 270 10“, MP 270 10“, MP 370 12“ Touch (pack of 10 each)	**6AV6 574-1AD00-4CX0**
Cover foil for MP 370 15” Touch (pack of 10 each)	**6AV6 574-1AD00-4EX0**
Cover foil for MP 277 to protect the Touch front against fouling/scratching (set of 10 each)	
• for MP 277 10" Touch	**6AV6 574-1AD00-4CX0**
• for MP 277 8" Touch	**6AV6 574-1AD00-4DX0**
Protective pocket for key labeling strips for Mobile Panel 170 and 177 (x 5)	**6AV6 574-1AB04-4AA0**
Key labeling strips for Mobile Panel 277 Pack for 6 devices (2 sheets with 3 sets each), with spare adhesive labels for key caps	**6AV6 671-5BF00-0AX0**

A) Subject to export regulations AL: N and ECCN: EAR99H

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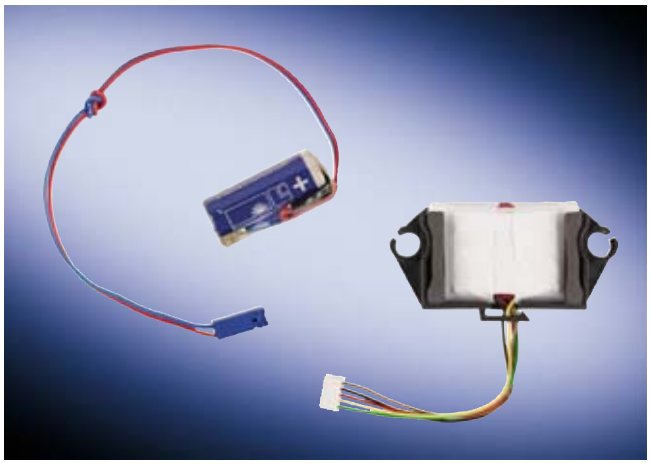
Backup battery, plug-in power supply, option pack for Mobile Panel

Overview



Backup battery and rechargeable battery

Ordering data

	Order No.
Backup battery Lithium battery, 3.6 V DC; 1.7 Ah; for TD17,OP17, OP25, OP27, OP 270, OP35, OP37, TP27, TP 270, TP37, MP 270, MP 270B and MP 370	**W79084-E1001-B2**
Option pack Battery for Mobile Panels (DP and PN)	**6AV6 671-5AD00-0AX0**
Plug-in power supply For easy configuring of OP3:	
• 230 V AC/24 V DC	**6ES7 705-0AA00-1AA0**
• 115 V AC/24 V DC[1)]	**6ES7 705-0AA00-1BA0**

1) Not authorized for sale in the EU

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SIMATIC Panel PC

3

3/2 **Introduction**
3/6 SIMATIC Panel PC 477 embedded
3/13 SIMATIC Panel PC 577
3/19 SIMATIC Panel PC 677

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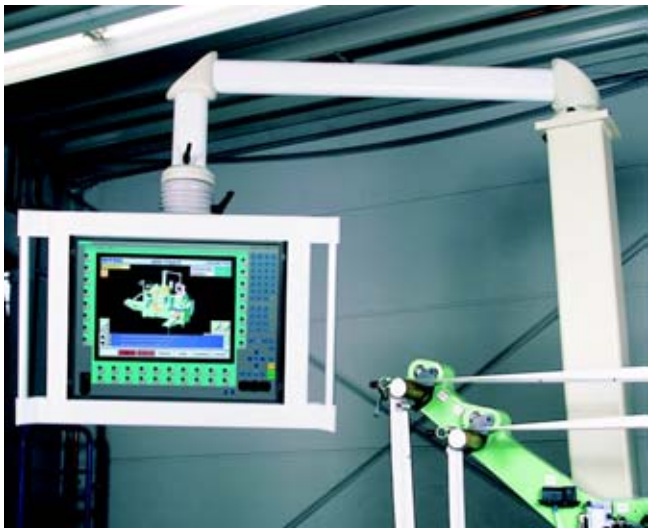
Introduction

Overview



SIMATIC Panel PCs are suitable for use in control cabinets, consoles and control panels. Typical areas of application can be found in both production and process automation.

SIMATIC Panel PC 477 embedded, 577, 677 and 877 are able to meet a variety of requirements.

Shared industrial functionality

- Degree of protection IP65, NEMA 4
- High EMC: CE mark for industrial applications
- Designed for 24-hour continuous operation
- MTBF backlighting 50000 h
- Ethernet on board, PC 577 (10/100/1000 Mbit), PC 477, PC 677 (2 x 10/100 Mbit), PC 877 (10/100 Mbit)
- Ambient temperature during operation (with maximum configuration):
  - 5 °C to 45 °C
  - Panel PC 477/677/877: 5 °C …50 °C in installation space, if 40 °C at the front

SIMATIC Panel PC 477 embedded

Maximum industrial capability
- Vibration resistance during operation: 1 g
- Shock resistance during operation: 5 g

High investment protection
- Spare parts availability guaranteed for 5 years following the end of active marketing
- High continuity of parts used.
- Service-friendly device design

High degree of industrial functionality
- PROFIBUS DP/MPI interface optionally on-board
- Extremely compact construction (only 75 mm mounting depth)
- Maintenance-free (without fan and hard disk)
- High security due to the Windows XP embedded operating system

High system availability
- SIMATIC PC DiagMonitor – PC diagnostics/alarm software (expansion components)
- SIMATIC PC/PG Image & Partition Creator – Software tool for backing up hard disk data (expansion components)
- The high security and reliability of an embedded platform

Ready-to-run devices with software bundles
- HMI: pre-installed software WinCC flexible 2005 incl. archive and recipes
- HMI/RTX: such as HMI plus WinAC RTX 2005 with 25 KB buffered retentive memory

SIMATIC Panel PC 577

High degree of industrial capability
- Vibration resistanceduring operation **0.25 g**[1)]
- Shock resistanceduring operation **1 g**[1)]

Investment protection
- Spare parts availability guaranteed for at least 3 years following the end of active marketing
- The latest PC technology
- Attractive price

High system availability
- SIMATIC PC/PG Image&Partition Creator – Software tool for backing up hard disk data (option)

1) Please observe our installation instructions in the Internet and in the manuals as well.
https://support.automation.siemens.com
Entry ID: 22216685 (panel cutouts for Panel PC 577)

SIMATIC Panel PC 677 and 877

Maximum industrial capability
- Vibration resistance during operation: 1 g
- Shock resistance during operation: 5 g

High investment protection
- Spare parts availability guaranteed for 5 years following the end of active marketing
- High continuity of parts used
- Equipment configuration is very service-friendly

High degree of industrial functionality
- Built-in PROFIBUS DP/MPI interface
- Low mounting depth (Panel PC 677)
- PCI slots
- ISA slots (Panel PC 877)
- Maximum expansion capability (Panel PC 877)
- Distributed configuration (operator control unit and computer unit can be up to 30 m apart)[1)]
- Direct control key module (optional)

High system availability
- SIMATIC PC DiagMonitor – PC diagnostics/alarm software (expansion components)
- SIMATIC PC/PG Image&Partition Creator – Software tool for backing up hard disk data (expansion components)
- Second hard disk
- RAID1 (on-board on Panel PC 677, optional on Panel PC 877)

1) Available as an accessory for the Panel PC 677/877 via remote kit

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SIMATIC Panel PC overview

	SIMATIC Panel PC 477 embedded	SIMATIC Panel PC 577	SIMATIC Panel PC 677	SIMATIC Panel PC 877
Design				
• Centralized configuration	■	■	■	■
• Distributed configuration via remote kit	—	—	■ 2)	■ 2)
Display				
• Size	12.1"/15.1" TFT	12.1"/15.1"/19.1" TFT	12.1"/15.1"/19.1" TFT	12.1"/15.1"/19.1" TFT
• Resolution	800 x 600 / 1024 x 768	800 x 600 / 1024 x 768 / 1280 x 1024	800 x 600 / 1024 x 768 / 1280 x 1024	800 x 600 / 1024 x 768 / 1280 x 1024
Operator controls				
• Membrane keyboard	■ 3)	■ 3)	■ 3)	■ 3)
• Touch screen	■	■	■	■ 4)
General features				
• Processor	Intel Celeron 650 MHz; Intel Pentium III 933 MHz	Intel Celeron 2 GHz; Intel Pentium 4 2.4 GHz	Intel Celeron M 370 1.5 GHz or Intel Pentium M 730 1.6 GHz or Intel Pentium M 760 2 GHz	Intel Celeron 2 GHz or Intel Pentium 4 2.8 GHz or Intel Pentium 4 mobile 2.2 GHz
• Main memory	512 MB	256 MB; 512 MB; 1 GB, expandable to 3 GB	256 MB; 512 MB; 1 GB; 2 GB	256 MB; 512 MB; 1 GB; 2 GB
• Free expansion slots	3 x PC/104 plus (through expansion rack) 1 x slot for CompactFlash Card	3 x PCI (all slots with card retainer and one slot specially prepared for WinAC Slot module)	2 x PCI (all slots with card retainer); 1 x slot for CompactFlash Card	2 x PCI; 2 x PCI/ISA shared; 1 x ISA (all slots with card retainer)
• Operating system	Windows XP embedded on CF Card	None, Windows 2000 Professional MUI; Windows XP Professional MUI	None, Windows 2000 Professional MUI; Windows XP Professional MUI	None, Windows 2000 Professional MUI; Windows XP Professional MUI
Interfaces				
• PROFIBUS/MPI	■	— 1)	■	■
• Ethernet	■	■	■	■
• PS/2 (mouse /keyboard)	—	■	—	■
• USB	■	■	■	■
• Serial interface	■	■	■	■
• Parallel interface	—	■	—	■
• Multimedia interface	—	■	—	—
• Graphics interface	■	■	■	■
Ambient conditions				
• Vibration load during operation	**1 g**	**0.25 g**	**1 g**	**1 g**
• Shock loading during operation	**5 g**	**1 g**	**5 g**	**5 g**
• Permissible temperature during operation with maximum configuration	+5 °C …+45 °C max. 50 °C in installation space, 40 °C if at the front 7)	+5 °C …+45 °C	+5 °C …+45 °C max. 50 °C in installation space, max. 40 °C if at the front	+5 °C …+45 °C max. 50 °C in installation space, 40 °C if at the front 5)
Heat loss in maximum configuration				
• 12"/15" display	80 W / 85 W 6)	190 W 8)	max. 140 W 8)	230 W 5) 9)/ 300 W 9)
• 19" display	—	210 W 8)	max. 163 W 8)	260 W 5) 9)/ 330 W 9)

■ Available
— Not available

1) expandable via plug-in card
2) available as accessory (Remote Kit up to 30 m)
3) Membrane keyboard devices are only available with 12"/15" displays
4) Touch screen devices are only available with 15"/19" displays
5) Only with 24 V DC power supply and Pentium 4 Mobile
6) 24 V DC / 230 V AC (9 W taken into account for PC/104 module)
7) With Celeron 650 MHz; max. 45 °C with Pentium 3 933 MHz
8) 15 W taken into account for each slot
9) 10 W taken into account for each slot

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Introduction

Overview

The following symbols have been devised in order to provide a simple means of indicating the outstanding product features of SIMATIC PCs.

Symbol	Description
	Maximum computer performance thanks to state-of-the-art PC technology
	Expandability with supplementary module
	High investment protection due to long product service life (at least 2.5 years) and long spare-parts availability (at least 5 years)
	High system availability due to data backup options (e.g. RAID1 system)
	High system availability thanks to efficient device diagnostics (e.g., monitoring, logging and signaling function via LAN with SIMATIC PC DiagMonitor)

Symbol	Description
	High degree of resistance to vibration and shock loads and high ambient temperatures
	Space-saving system concept thanks to minimum outside dimensions
	Remote PC display concept possible
	Centralized PC display concept

Benefits

SIMATIC Panel PC 477 embedded

High degree of industrial capability

The rugged design offers reliable protection, even against strong vibration and impact loads.

Continuity

Continuity with regard to the availability of identical components, also for long-term machine concepts without renewed engineering outlay, assures a high level of investment protection.

Service-friendly device design

USB 2.0 ports at front and rear support quick and easy connection of additional hardware components. The PC is maintenance-free because it has no rotating components (fan and hard disk).

Integrated interfaces

The Ethernet interface is already integrated, PROFIBUS DP/MPI interface optionally onboard.

SIMATIC Panel PC 577

Industrial compatibility in combination with high performance at an attractive price

The SIMATIC Panel PC 577 is the first choice for applications which require industrial compatibility in conjunction with high-performance IPC platforms.

Integrated interfaces

The integrated Ethernet interface can be used for communication in the office world or at management level. The integral USB 2.0 interfaces at the front and rear mean that connection of peripheral devices from the PC world is child's play.
Once an application is running, devices such as an external mouse, keyboard, CD-ROM drive or ZIP drive, printer, chip card reader, barcode reader and many others can be installed and operated with ease. The PCI slots provide leeway for installing PC expansion cards, e.g., communication cards for interfacing with the process.

The price

The Panel PC 577 offers industrial compatibility at an attractive price.

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Benefits (continued)

SIMATIC Panel PC 677 and 877

Compact, rugged and powerful

677 and 877 Panel PCs are Panel PCs with full industrial capability. With display sizes of 12", 15" and 19" and operation via a membrane keyboard or touch screen, they are able to meet a whole variety of requirements in terms of operating concepts.

Rugged design

The overall design aims to achieve maximum safety for vibration and shock loads. For example, a special vibration-absorbing suspension of the hard disk ensures operational reliability, even at high mechanical loads.

Continuity

Through continuity in the availability of identical components, such as motherboards designed and produced by Siemens, the SIMATIC Panel PC 677 and 877 offer very high investment security.

Service-friendly device design

When designing the Panel PCs 677 and 877, particular attention was paid to outstanding service friendliness. For example, the PC box and front panel can simply be folded out for speedy component replacement. The inside of the device, where the processor and slots are located, can be accessed easily for subsequent expansions.

Integrated interfaces

The SIMATIC Panel PCs 677 and 877 are supplied with the PROFIBUSDP/MPI interface already integrated on the motherboard – at no extra cost. The Ethernet interface for connecting to the management level or the Internet is also supplied as standard.

Modern service/startup interface

The standard USB 2.0 (Universal Serial Bus) interfaces make connecting components easy, both on the rear and front panels.

Compact dimensions

With a maximum mounting depth of 105/130 mm, the SIMATIC Panel PC 677 can be used in the smallest of spaces.

Extendibility

With its 5 free PC slots, the SIMATIC Panel PC 877 offers considerable leeway for expansions.

Options

The SIMATIC Panel PCs 677 and 877 offer specific industrial capability beyond that of standard PC features. For example, the "distributed configuration" via remote kit enables the PC and control unit to be located separately.
An additional block for operational reliability is the optional direct control key module. It can be used to run the process independently of the operating system and without delay directly on PROFIBUS DP/MPI.

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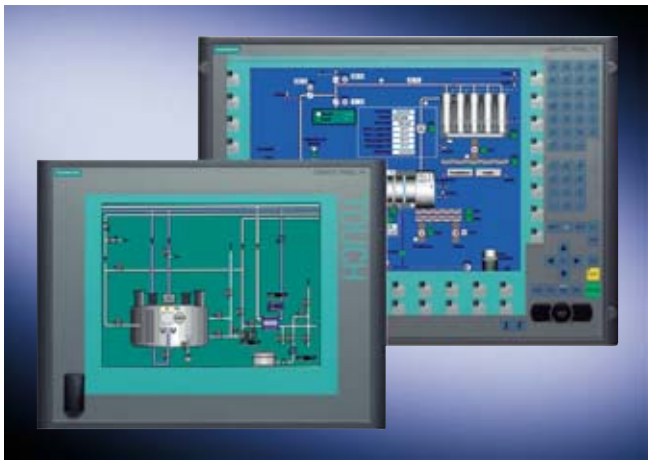
SIMATIC Panel PC 477 embedded

Overview



- Embedded PC platform with high degree of industrial compatibility for demanding tasks in the area of PC-based automation
- Maintenance-free (without rotating parts such as fans and hard disks)
- Rugged construction:
  The PC can withstand the harshest mechanical stress and maintains reliable operation
- Compact construction (only 75 mm mounting depth)
- High investment protection
- Fast integration capability
- Front panel versions:
  - 12" and 15" TFT Touch
  - 12“ and 15“ TFT Key

Benefits

- High industrial capability thanks to extremely rugged design, even in the event of strong vibration and impact loads
- High degree of investment protection thanks to assured availability of spare parts (for a period of 5 years following the end of active marketing)
- High continuity of components for long-term machine concepts without renewed engineering outlay
- Savings in time and costs thanks to service-friendly equipment construction:
  - USB 2.0 ports on front and rear for quick and easy connection of additional hardware components
- High industrial capability thanks to integrated PROFIBUS DP/MPI and Ethernet interfaces
- Maintenance-free thanks to a lack of rotating parts (fans and hard disk)
- Minimization of downtime through increased system availability:
  - efficient self-diagnosis (SIMATIC PC DiagMonitor)
  - the high security and reliability of an embedded platform
- Integral component of Totally Integrated Automation (TIA): Increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- Ready-to-run, complete solutions (software is already installed and preconfigured) for visualization and automation in connection with WinCC flexible and WinAC RTX.

Application

SIMATIC Panel PC 477 embedded is designed for use on site at the machine where ruggedness and maximum reliability (i.e. the security of an embedded platform) are the most important requirements and the openness of a PC is also necessary (e.g. the addition of new modules and connection of peripherals such as printers, keyboards, etc.).

Due to the low mounting depth of only 75 mm, it can also be used where mounting space is at a premium.

The PC is used in both production automation and in process automation and is installed in control cabinets and desks, 19" cabinets/racks and swivel arms (gantries).

A SIMATIC Panel PC is the ideal platform for PC-based Automation:

- PC-based visualization locally at the machine with SIMATIC WinCC flexible 2005
- PC-based control with SIMATIC WinAC RTX 2005
- SIMATIC WinCC Web Client for Web-based solutions with WinCC / Web Navigator

Siemens offers a complete modular system of automation components that complement one another perfectly.

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Design

The Panel PC 477 embedded is a compact unit comprising an operating unit with integral computer unit.

Components of the computer unit:

- Rugged metal casing, resistant to vibrations and shocks, with high electromagnetic compatibility.
- Processor:
  - Intel Celeron 650 MHz
  - Pentium P3, 933 MHz
- Main memory basic configuration:
  - 512 MB
- Compact Flash Drive with preinstalled Windows XP embedded (Image) operating system
- Graphic on board (VGA analog, 1024 x 768)
- Interfaces:
  - 2 x 10/100 Ethernet on-board
  - PROFIBUS DP/MPI on-board, electrically isolated (optional)
  - 3 x USB 2.0 connection, 500 mA (1 x on front)
  - 1 x COM1 (RS232)
- Free slots for expansion:
  - 3 x PC/104 plus (with expansion frames)
- Power supply: 110 V/230 V AC (autorange), 50/60 Hz or 24 V DC

Optional additional equipment for OEM solutions: (customer-specific solutions)

- Second Compact Flash Drive or 2.5" hard disk (≥ 40 GB)

Components of the operator control unit:

The operator control units are available in the following versions:

12” Key

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse

12" Touch

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Resistive analog touch screen

15” Key

- 15.1“ TFT color display, 1024 x 768 pixels (XGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse

15" Touch

- 15.1“ TFT color display, 1024 x 768 pixels (XGA)
- Resistive analog touch screen

They have a USB 2.0 interface on the front for connecting external I/O devices such as a mouse or keyboard and satisfy the requirements of degree of protection IP65 and NEMA 4. All operating units are also available optionally without a USB interface on the front.

Expansion components

SIMATIC PC DiagMonitor

- PC diagnostics/signaling software for early detection and diagnostics of PC problems
- Comprehensive monitoring of temperature, watchdog
- Operating hours counter for preventive maintenance
- Integral recording function, comprehensive text messages, online help (German/English)
- Network-wide monitoring via SNMP and OPC interface possible

SIMATIC PC/PG Image & Partition Creator

- Software tool for preventive data backup of hard disk contents (CF cards, hard disks)
- Fast, bit-exact restoration of system and data partitions; user software and special installations are also backed up.
- Software tool for adaptation of hard disk partitioning

3.5" disk drive, USB

The USB diskette drive is provided for fast exchange of user data, e.g., recipes, or of files. The drive must not be used as a cyclic archiving drive. The front-panel installation and degree of protection IP54 permit data exchange from the front without opening the control cabinet door.

The device is connected via the USB interface of the Panel PC. The power is also supplied over the USB interface. The scope of delivery includes a one m long USB cable. The diskette drive complies with the USB 1.1 standard. 3.5" high density diskettes can be used (1.44 MB).

Use of the USB diskette drive with SIMATIC Panel PCs:

- Windows XP: Possible without separate driver
- Driver is supplied with the operating system

SIMATIC PC USB FlashDrive

- Mobile memory medium for SIMATIC PC/PG
- Fast data transfer (USB 2.0) and high memory capacity
- Ultra-compact and rugged

Industrial USB Hub 4

- Industry-standard USB 2.0 Hub, Front IP65
- Installation in cabinet door or on top-hat rail
- Inspection window and LEDs for each of the four interfaces

Note:
Further information can be found under "Expansion components" in the Catalog ST 80 2006.

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SIMATIC Panel PC 477 embedded

Function

- Integrated, configurable monitoring functions (program execution (watchdog), internal enclosure temperature)
- Enhanced diagnostic / messaging via Ethernet, e-mail, text message, and for direct input in SIMATIC software via OPC (optional via SIMATIC PC DiagMonitor)

Integration

Integrated interfaces:

- Ethernet
  The integrated Ethernet interfaces (10/100 Mbit/s) can be used for IT communication and for data exchange with automation devices such as SIMATIC S7 (with the SOFTNET S7 software packages).
- PROFIBUS (optional)
  The floating PROFIBUS interface (12 Mbit/s) can be used to connect distributed field devices or to interface to the SIMATIC S7 (with the software packages "SOFTNET for PROFIBUS").
- Other interfaces
  For connecting additional I/O devices, 3 free slots are available for PC/104 Plus modules as well as 3 USB (Universal Serial Bus) interfaces and one serial interface.

SIMATIC Panel PC 477 HMI and HMI/RTX

- Quick start in automation solutions with embedded automation
  - SIMATIC WinCC flexible RT preinstalled and ready to run (Panel PC 477-HMI) or SIMATIC WinCC flexible and SIMATIC WinAC RTX preinstalled ready to run (Panel PC 477-HMI/RTX)
  - PROFIBUS and Industrial Ethernet ready configured for use in a SIMATIC environment
  - Configuration and programming with SIMATIC WinCC flexible ES and SIMATIC STEP 7 via Industrial Ethernet or PROFIBUS
- Flexibility of a PC-based automation environment
  - Open for further PC applications
  - Expandable with PC/104+ cards
  - Connection option for USB devices, flat panel monitor or standard screen
  - Use of the WinAC ODK with SIMATIC WinAC RTX
- Data retentivity for WinAC RTX without uninterruptible power supply (UPS)

Technical specifications

	SIMATIC Panel PC 477 embedded
General features	
• Processor	Intel Pentium III technology; Intel Celeron 650 MHz, Intel Pentium III 933 MHz
• Memory type	SDRAM-133
• Main memory	512 MB
• Free expansion slots	3 x PC104+ (spec. expansion frames)
• Operating system	Windows XP Embedded
• Additional information on operating system	Language: EN
• SIMATIC Software	Optional with pre-installed Software SIMATIC WinCC flexible or WinCC flexible / WinAC RTX
Drives	
• Disk drives	optionally using external USB Floppy drive
• Optical drives	possible as external drive using USB
• Hard disk/mass data storage	Compact Flash Drive with 512 MB or 1GB
Interfaces	
• Graphics interface	DVI-I for additional display unit (VGA using adapter); color depth 16-bit, graphics memory up to 32 MB, resolution as for integral display
• Slot for keyboard/mouse	USB / USB
• Serial interface	COM1: 1 x V.24 (RS232)
• PROFIBUS/MPI	optional on-board, isolated, max. 12 MBit/s, no plug-in card required, CP 5611-compatible
• USB	1x on front, 2x on rear, USB 2.0 (500 mA)
• Ethernet	on-board, 2 x 10/100 MBit, RJ45, no plug-in card required
• Multimedia	No
Power supply	
• Voltage	110 V AC / 230 V (autorange) 50/60 Hz; optional 24V DC
Monitoring functions	
• Temperature	Yes
• Watchdog	Yes
• Status LEDs	No
Degree of protection	
• Front acc. to EN 60529	IP65 (front) acc. to EN 60529 and NEMA4
Ambient conditions	
• Vibration load during operation	Tested acc. to DIN IEC 68-2-6: 10 - 58 Hz: 0.075 mm, 58 to 200 Hz: 9.8 m/s² (1 g)
• Shock loading during operation	Tested acc. to DIN IEC 68-2-29: 50 m/s² (5 g), 30 ms, 100 Shocks
• Relative humidity	Tested acc. to DIN IEC 68-2-3, DIN IEC 68-2-30, DIN IEC 68-2-56: 5% to 80% at 25 °C (no condensation)
• max. perm. installation angle+/-	35° to vertical
• Temperature during operation	+5°C to +45°C for max. configuration; fan-free
Certificates & Standards	
• Approvals	CE, cULus(508)
• EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2

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Technical specifications (continued)

Front panels	12" Touch	12" Keys	15" Touch	15" Keys
Display				
• Size	12"	12"	15"	15"
• Resolution (W x H in pixels)	800 x 600	800 x 600	1024 x 768	1024 x 768
• MTBF backlighting (at 25 °C)	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent
Operating mode				
• Function keys	No	36	No	36
• Alphanumeric keyboard	No	Yes	No	Yes
• Touch screen (analog/resistive)	Yes	No	Yes	No
• Mouse at the front	No	Yes	No	Yes
Design				
• Centralized configuration	Yes	Yes	Yes	Yes
• Distributed configuration	No	No	No	No
Dimensions				
• Mounting dimensions	368 x 290 x 75	450 x 290 x 75	450 x 290 x 75	450 x 321 x 75
• Operator panel (W x H) in mm	400 x 310 (7 HU)	483 x 310 (19", 7 HU)	483 x 310 (19", 7 HU)	483 x 355 (19", 8 HU)
Weight				
• Panel PC in centralized configuration approx.	7.3 kg	7.7 kg	8.3 kg	8.7 kg
General features				
• Accessories	Touch cover foils	Keyboard labeling strips	Touch cover foils	Keyboard labeling strips
• Expansion components	SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4
• Power loss with full configuration	24 V DC: max. 80 W, 230 V AC: max. 85 W (with 3 W per slot)	24 V DC: max. 80 W, 230 V AC: max. 85 W (with 3 W per slot)	24 V DC: max. 80 W, 230 V AC: max. 85 W (with 3 W per slot)	24 V DC: max. 80 W, 230 V AC: max. 85 W (with 3 W per slot)

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SIMATIC Panel PC 477 embedded

Ordering data — Order No.

Panel PC configuration

SIMATIC Panel PC 477 embedded D **6AV7 84■-0■■10-0■B0**

Fronts with USB 2.0 interface; 512 MB SDRAM main memory; Windows XP embedded operating system

Front panels

- 12“ TFT Touch — **1**
- 12“ TFT Key — **2**
- 15“ TFT Touch — **3**
- 15“ TFT Key — **4**

Power supply

- 24 V DC — **A**
- 110/230 V AC, Europe power cable — **B**

Processor/PROFIBUS

- Intel Celeron 650 MHz — **C**
- Intel Celeron 650 MHz, PROFIBUS DP 12 (on-board) — **D**
- Intel Pentium 3, 933 MHz — **E**
- Intel Pentium 3, 933 MHz, PROFIBUS DP 12 (on-board) — **F**

Mass data storage

With operating system (Windows XP embedded preinstalled)

- CompactFlash 512 MB — **B**
- CompactFlash 1 GB — **C**

With HMI CompactFlash 1 GB, Windows XP embedded preinstalled, and HMI (Archives / Recipes preinstalled)

- WinCC flexible preinstalled, RT 128 PT — **F**
- WinCC flexible preinstalled, RT 512 PT — **G**
- WinCC flexible preinstalled, RT 2048 PT — **H**

With HMI/RTX (only together with PROFIBUS DP 12 CPUs) CompactFlash 1 GB, Windows XP embedded preinstalled, and HMI/RTX (Archives / Recipes preinstalled and Win AC RTX preinstalled and configured)

- WinCC flexible preinstalled, RT 128 PT — **L**
- WinCC flexible preinstalled, RT 512 PT — **M**
- WinCC flexible preinstalled, RT 2048 PT — **N**

D) Subject to export regulations: AL: N and ECCN: 5D992B1

Order No.

Delivery versions (ex stock)

12" TFT Touch 24 V DC power supply Celeron 650 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7841-0AD10-0CB0**
12" TFT Touch 24 V DC power supply Pentium P3 933 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7841-0AF10-0CB0**
12" TFT Keys 24 V DC power supply Pentium P3 933 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7842-0AF10-0CB0**
15" TFT Touch 24 V DC power supply Celeron 650 MHz 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7843-0AC10-0CB0**
15" TFT Touch 24 V DC power supply Pentium P3 933 MHz 512 MB RAM 1 GB CompactFlash mit Windows XPembedded	D	**6AV7843-0AE10-0CB0**
15" TFT Touch 24 V DC power supply Pentium P3 933 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7843-0AF10-0CB0**
15" TFT Touch 110/230 V AC power supply Pentium P3 933 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7843-0BF10-0CB0**
15" TFT Keys 24 V DC power supply Pentium P3 933 MHz with PROFIBUS DP12 512 MB RAM 1 GB CompactFlash with Windows XPembedded	D	**6AV7844-0AF10-0CB0**

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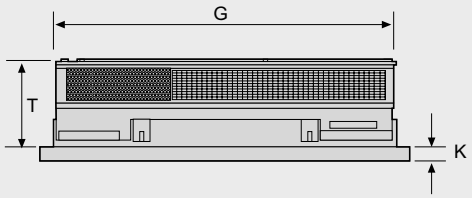
Ordering data

		Order No.
Accessories		
Cover foil for Panel PCs 477/577/677/877 To protect the touch front against fouling/scratching		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
Labeling foil for Panel PCs 477/577/677/877 For labeling softkeys and function keys, blank, supplied in sets of 10		**6AV7 672-0DA00-0AA0**
Non-heating apparatus cable for SIMATIC Box and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for:		
• Germany		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• U.S.A.		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
Expansion components		
SIMATIC PC/PG DiagMonitor V2.2 Software tool for monitoring SIMATIC PCs, incl. manual, on CD-ROM (German/English)	A	**6ES7 648-6CA02-2YX0**
SIMATIC PC/PG Image & Partition Creator Software tool for data backup and hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	A	**6ES7 648-6AA03-0YX0**
3.5" disk drive, USB With 1 m connecting lead	A	**6FC5 235-0AA05-1AA2**
Compact Flash Card		
• 256 MB	A	**6ES7 648-2BF01-0XC0**
• 512 MB	A	**6ES7 648-2BF01-0XD0**
• 1 GB	A	**6ES7 648-2BF01-0XE0**
SIMATIC PC USB FlashDrive 512 MB, USB 2.0, metal enclosure, boot capability	A	**6ES7 648-0DC20-0AA0**
Expansion kit PC/104 For integration of PC/104 modules (packing unit contains 6 expansion frames)	A	**6AG4 070-0BA00-0XA0**
Industrial USB Hub 4 4 x USB 2.0, IP65 for cabinet door or DIN rail installation	A	**6AV6 671-3AH00-0AX0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

Dimension drawings

Dimensions in mm



Operator panels PC 477	G	K	T
Touch panels			
12"	289	3	75
15"	289	3	75
Key panels			
12"	289	3	75
15"	324	3	75

All dimensions without screw protrusions

G_ST80_XX_00274

Operator control unit and complete unitt

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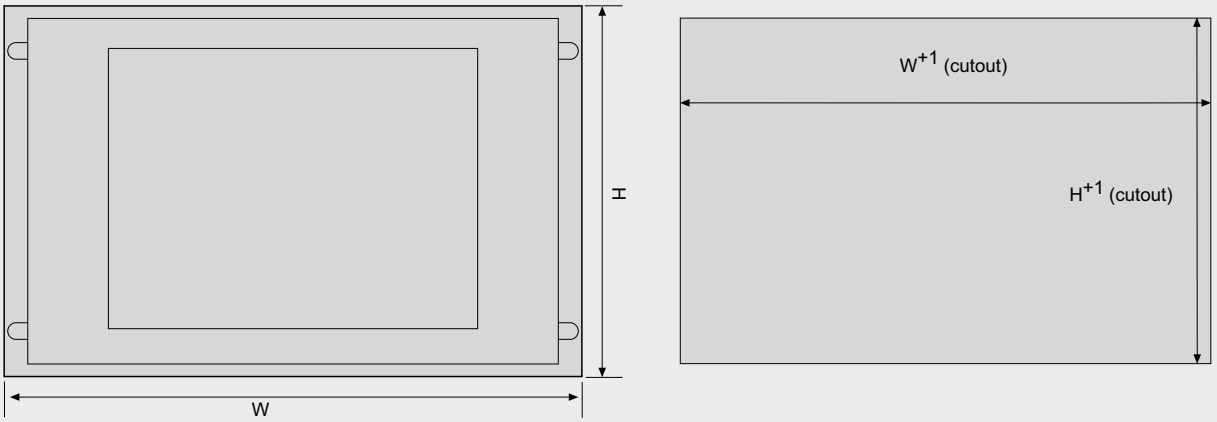
SIMATIC Panel PC 477 embedded

Dimension drawings (continued)

Dimensions in mm



Front dimensions

Touch panels	W	H
12"	400	310
15"	483	310
Key panels	**W**	**H**
12"	483	310
15"	483	355

Installation cutouts

Touch panels	W+1	H+1
12"	368	290
15"	450	290
Key panels	**W+1**	**H+1**
12"	450	290
15"	450	321*

* In addition: two 25 x 5 mm recesses on the top side for keyboard slide-in label channels

G_ST80_XX_00239

Installation cut-out

More information

Additional information can be found in the Internet under:
http://www.siemens.com/panel-pc

Note:
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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Overview

- Industry-standard PC platform for demanding operator control and monitoring tasks
- Maximum performance thanks to high processor performance at an attractive entry-level price
- Front panel versions:
  - 12“, 15“ and 19“ TFT Touch
  - 12“ and 15“ TFT Key

Benefits

- Suitable for industrial environments subject to vibration and shock loads
- Investment protection thanks to guaranteed availability of spare parts
- USB port for quick and easy connection of required components
- Integrated Ethernet interface
- Minimization of downtimes thanks to increased system availability:
  - Data backup solutions (preventative data backup)
  - Integral component of Totally Integrated Automation (TIA): increases productivity, minimizes the engineering outlay, reduces the lifecycle costs

Application

The SIMATIC Panel PC 577 is used in production and process automation and can be installed into control cabinets and control panels.

A SIMATIC Panel PC 577 is a platform for PC-based Automation:

- PC-based visualization locally at the machine with SIMATIC WinCC flexible
- Complex solutions with SIMATIC WinCC process visualization
- PC-based Control with SIMATIC WinAC Software PLC or with SIMATIC WinAC Slot PLC

Siemens offers a complete modular system of automation components that complement one another perfectly.

The SIMATIC Panel PCs can be ordered in combination with WinCC flexible or WinCC as SIMATIC HMI packages at a special price (see SIMATIC HMI complete systems).

Design

The Panel PC 577 comprises a computer unit and an operator unit.

Components of the computer unit:

- Metal housing, resistant to vibration and shock, with high electromagnetic compatibility
- Processor:
  - Intel Celeron 2.0 GHz
- Memory:
  - 256 MB DDR 400
- Hard disk: ≥ 40 GB;
- Interfaces:
  - 1 x GB Ethernet on-board
  - 4 x USB on rear side (USB 2.0),1 x USB on the front (USB 2.0)
  - 1 x serial V.24 (9-pin)
  - 1 x parallel
- Free slots for expansion:
  - 3 x PCI (slots with card retainer + 1 slot specially prepared for WinAC Slot module),
- Power supply: 110 V/230 V AC (autorange) 50/60 Hz

Optional additional components:

- 2.4 GHz Intel Pentium 4 processor
- 512 MB DDR 400, 1 GB DDR 400, expandable to 3 GB
- Diskette drive, optional via USB, can be ordered as accessory
- DVD-ROM or DVD±RW±R drives optional
- Operating system: Windows 2000 MUI or Windows XP Professional MUI

Components of the operator control unit:

The front panels are available in the following designs:

12" Touch

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Resistive analog touch screen
- USB 2.0 port on front

15" Touch

- 15.1“ TFT color display, 1024 x 768 pixels (XGA)
- Resistive analog touch screen
- USB 2.0 port on front

19” Touch

- 19.1“ TFT color display, 1280 x 1024 pixels (SXGA)
- Resistive analog touch screen
- USB 2.0 port on front

12" Key

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse
- USB 2.0 port on front

15" Key

- 15.1“ TFT color display, 1024 x 768 pixels (XGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse
- USB 2.0 port on front

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SIMATIC Panel PC 577

Design (continued)

Expansion components

SIMATIC PC/PG Image & Partition Creator

- Software tool for preventive data backup of hard disk contents
- Fast, bit-exact restoration of system and data partitions; application software and special installations are also backed up.
- Software tool for adaptation of hard disk partitioning

3.5" disk drive, USB

The USB diskette drive is provided for fast exchange of user data, e.g., recipes, or of files. The drive must not be used as a cyclic archiving drive. The front-panel installation and degree of protection IP54 permit data exchange from the front without opening the control cabinet door.

The device is connected via the USB interface of the Panel PC. The power is also supplied over the USB interface. The scope of delivery includes a 1 m long USB cable. The diskette drive complies with the USB 1.1 standard.

3.5" high density diskettes can be used (1.44 MB).

Use of the USB diskette drive with SIMATIC Panel PCs:

- Windows XP: possible without separate driver
- Windows 2000: the required driver is included in the scope of supply of the operating system

Industrial USB Hub 4

- Industry-standard USB 2.0 Hub, Front IP65
- Installation in cabinet door or on DIN rail
- Inspection window and LEDs for each of the four interfaces

Note:
Further information can be found under "Expansion components" in the Catalog ST 80 2006.

Function

- Integrated, configurable monitoring functions for program execution (watchdog), internal enclosure temperature, fan speed

Integration

Integrated interfaces

- Ethernet
  The integrated Ethernet interface (10/100/1000 Mbit/s) can be used for IT communication and for data exchange with automation devices such as SIMATIC S7 (with the SOFTNET S7 software package).
- Other interfaces
  For connecting additional I/O devices, 3 free PCI slots are available for PC modules, USB 2.0 (Universal Serial Bus), and serial/parallel interfaces, as well as multi-media and graphics interfaces.

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Technical specifications

	12" Touch	12" Keys	15" Touch	15" Tasten	19" Keys
Front panels	12" TFT touch display	12" TFT display	15" TFT touch display	15" TFT display	19" TFT touch display
Display					
• Size	12"	12"	15"	15"	19"
• Resolution (W x H in pixels)	800 x 600	800 x 600	1024 x 768	1024 x 768	1280 x 1024
• MTBF backlighting (at 25 °C)	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent
Operating mode					
• Function keys	No	36	No	36	No
• Alphanumeric keyboard	No	Yes	No	Yes	No
• Touch screen (analog/resistive)	Yes	No	Yes	No	Yes
• Mouse at the front	No	Yes	No	Yes	No
Design					
• Centralized configuration	Yes	Yes	Yes	Yes	Yes
• Distributed configuration	No	No	No	No	No
Dimensions					
• Mounting dimensions	368 x 290 x 152	450 x 290 x 137	450 x 290 x 155	450 x 321 x 162	450 x 380 x 182
• Operator panel (W x H) in mm	27 mm	27 mm	27 mm	27 mm	27 mm
	400 x 310 (7 HU)	483 x 310 (19", 7 HU)	483 x 310 (19", 7 HU)	483 x 355 (19", 8 HU)	483 x 400 (19", 9 HU)
Weight					
• Panel PC in centralized configuration approx.	11 kg	12 kg	13 kg	13 kg	18 kg
General features					
• Accessories	Touch cover foils	Keyboard labeling strips	Touch cover foils	Keyboard labeling strips	Touch cover foils
• Expansion components	SIMATIC NET communication modules, 3.5" USB disk drive; Image &Partition Creator, PC/PG DiagMonitor, Industrial USB Hub 4, PC USB-FlashDrive	SIMATIC NET communication modules, 3.5" USB disk drive; Image &Partition Creator, PC/PG DiagMonitor, Industrial USB Hub 4, PC USB-FlashDrive	SIMATIC NET communication modules, 3.5" USB disk drive; Image &Partition Creator, PC/PG DiagMonitor, Industrial USB Hub 4, PC USB-FlashDrive	SSIMATIC NET communication modules, 3.5" USB disk drive; Image &Partition Creator, PC/PG DiagMonitor, Industrial USB Hub 4, PC USB-FlashDrive	SIMATIC NET communication modules, 3.5" USB disk drive; Image &Partition Creator, PC/PG DiagMonitor, Industrial USB Hub 4, PC USB-FlashDrive
• Power loss with full configuration	max. 190 W (with 15 W per slot)	max. 190 W (with 15 W per slot)	max. 190 W (with 15 W per slot)	max. 190 W (with 15 W per slot)	max. 210 W (with 15 W per slot)

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SIMATIC Panel PC 577

Technical specifications (continued)

	Panel PC 577
General features	
• Processor	Intel Pentium 4 technology; Intel Celeron 2.0 GHz, Intel Pentium 4 2. GHz
• Memory type	DDR-400
• Main memory	256 MB, 512 MB or 1 GB; 3 GB max.
• Free expansion slots	3x PCI (slots with card retainer)
• Operating system	Windows 2000 Prof. (Multi Language), Windows XP Prof. (Multi Language), opt. without operating system
• Additional information on operating system	Multi Language: GER, EN, IT, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN
• SIMATIC Software	Optional in package with SIMATIC WinCC or WinCC flexible
Drives	
• Disk drives	option. using external USB drive
• Optical drives	optional: DVD-ROM or DVD±R±RW; rear, operated from the side
• Hard disk/mass data storage	2.5" EID hard disk ≥ 40 GB, vibration damped
Interfaces	
• Graphics interface	VGA interface for additional display unit; 32-bit color depth, 8-128 MB Shared Memory
• Slot for keyboard, mouse	PS/2 or USB; PS/2 or USB
• Parallel interface	LPT1 (EPP/ECP)
• Serial interface	COM1: 1x V.24 (RS232)
• PROFIBUS/MPI	using plug-in card
• USB	1x on front, 4x on rear, USB 2.0 (500 mA)
• Ethernet	on-board, 10/100/1000 MBit, RJ45, no plug-in card required
• Multimedia	Audio In/Out, Microfon In, Joystick Port

	Panel PC 577
Power supply	
• Voltage	110 V / 230 V AC (autorange) 50/60 Hz
Monitoring functions	
• Temperature	Yes
• Watchdog	Yes
• Status LEDs	No
Degree of protection	
• Front acc. to EN 60529	IP65 (front) acc. to EN 60529 and NEMA4
Ambient conditions	
• Vibration load during operation	Tested acc. to DIN IEC 68-2-6: 20 to 58 Hz: 0.0185 mm, 58 to 200 Hz: 2.5 m/s2 (0.25g)
• Shock loading during operation	Tested acc. to DIN IEC 68-2-29: 10 m/s2 (1g), 30 ms, 100 shocks
• Relative humidity	Tested acc. to DIN IEC 68-2-3, DIN IEC 68-2-30, DIN IEC 68-2-56: 5% to 80% at 25 °C (no condensation)
• max. perm. installation angle+/-	5° to vertical
• Temperature during operation	+5 °C to +45 °C for max. configuration
Certificates & Standards	
• Approvals	CE, cULus (508), C-Tick
• EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2

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Ordering data — Order No.

Panel PC configuration

SIMATIC Panel PC 577 D **6AV7 82■-0A■■0-■A■0**
with 40 GB hard disk

Front panels
- 12" TFT Touch — 0
- 12“ TFT Key — 1
- 15" TFT Touch — 2
- 15“ TFT Key — 3
- 19" TFT Touch — 4

Processor
- Celeron 2 GHz — A
- Pentium 4, 2.4 GHz — B

Main memory
- 256 MB DDR 400 — 0
- 512 MB DDR 400 — 1
- 1 GB DDR 400 — 2

Optical drives
- Without[1] — 0
- DVD ROM — 1
- DVD±RW±R (DVD burner) — 2

Operating system
- Without operating system — A
- Windows 2000 Professional SP4 Multilanguage (English, French, German, Italian, Japanese, Korean, simplified Chinese, Spanish, traditional Chinese) — B
- Windows XP Professional SP2 Multilanguage (English, French, German, Italian, Japanese, Korean, simplified Chinese, Spanish, traditional Chinese) — C

Delivery versions

		Order No.
12" TFT Touch Celeron 2 GHz 256 MB RAM DVD-ROM drive Windows XP Prof. SP2 MUI	D	**6AV7 820-0AA00-1AC0**
12" TFT Keys Celeron 2 GHz 256 MB RAM DVD-ROM drive Windows XP Prof. SP2 MUI	D	**6AV7 821-0AA00-1AC0**
15" TFT Touch Pentium 4 2.4 GHz 512 MB RAM DVD-ROM drive Windows XP Prof. SP2 MUI	D	**6AV7 822-0AB10-1AC0**
15" TFT Keys Pentium 4 2.4 GHz 512 MB RAM DVD-ROM drive Windows XP Prof. SP2 MUI	D	**6AV7 823-0AB10-1AC0**
19" TFT Touch Pentium 4 2.4 GHz 512 MB RAM DVD-ROM drive Windows XP Prof. SP2 MUI	D	**6AV7 824-0AB10-1AC0**

1) Not recommended for applications with WinCC/WinCC flexible

A) Subject to export regulations: AL: N and ECCN: EAR99H

D) Subject to export regulations: AL: N and ECCN: 5D992B1

Accessories

		Order No.
Cover foil for Panel PCs 477/577/677/877 To protect the touch front against fouling/scratching		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
• for 19" Touch		**6AV7 672-1CE00-0AA0**
Labeling foil for Panel PCs 477/577/677/877 for labeling softkeys and function keys, blank, supplied in sets of 10		**6AV7 672-0DA00-0AA0**
Memory expansion Set contains two memory chips for dual-channel mode		
• 512 MB DDR SDRAM (2 x 256 MB)		**6ES7 648-2AD30-0FB0**
• 1 GB DDR SDRAM (2 x 512 MB)		**6ES7 648-2AD40-0FB0**
• 2 GB DDR SDRAM (2 x 1.0 GB)		**6ES7 648-2AD50-0FB0**
Non-heating apparatus cable for SIMATIC Box and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for:		
• Germany		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• U.S.A.		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**

Expansion components

		Order No.
SIMATIC PC/PG Image & Partition Creator Software tool for data backup and hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	A	**6ES7 648-6AA03-0YX0**
3.5" disk drive, USB with 1 m connecting lead		**6FC5 235-0AA05-1AA2**
Industrial USB Hub 4 4 x USB 2.0, IP65 for cabinet door or DIN rail installation		**6AV7 671-3AH00-0AX0**

Communication components

		Order No.
CP 1613 A2 PCI card (32-bit) for connection of a programming device or PC to Industrial Ethernet	A	**6GK1 161-3AA01**
CP 1616 PCI card (32 bit) for connection to PROFINET IO with 4-PORT-REAL-TIME-SWITCH (RJ45) via Development Kit		**6GK1 161-6AA00**
CP 5611 A2 PCI card (32-bit) for connection of a programming device or PC to PROFIBUS	A	**6GK1 561-1AA01**
CP 5613 A2 PCI card (32-bit) for connection of a PC to PROFIBUS		**6GK1 561-3AA01**

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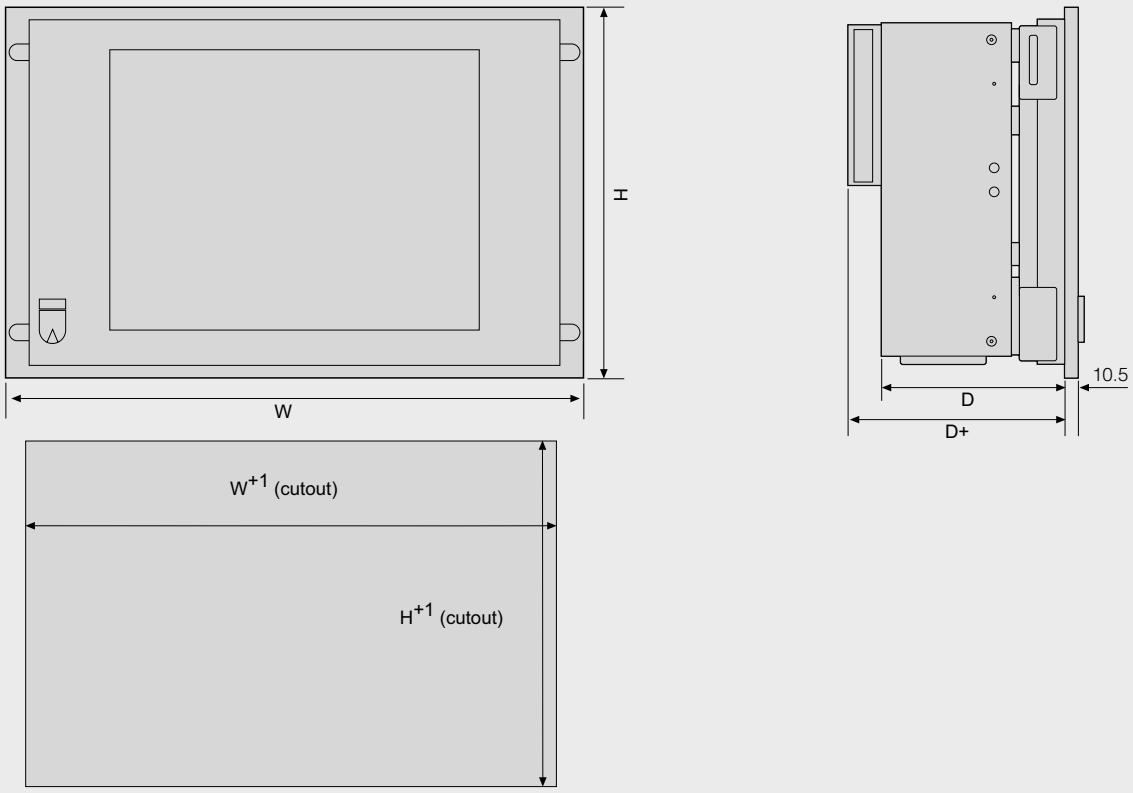
SIMATIC Panel PC 577

Dimension drawings

Dimensions in mm



Front dimensions	W	H
Touch		
12"	400	310
15"	483	311
19 "	483	400
Key		
12"	483	310
15"	483	355

Installation cutouts	W+1	H+1	D	D+
Touch				
12"	368	290	152	179
15"	450	290	155	182
19"	449	380	164	191
Key				
12"	450	290	137	164
15"	450	321	162	189

G_ST80_XX_000178

More information

Additional information can be found in the Internet under:
http://www.siemens.com/panel-pc

Note
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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Overview

- PC platform with high degree of industrial compatibility for demanding tasks in the area of PC-based automation
- Rugged construction:
  The PC can withstand the harshest mechanical stress and maintains reliable operation
- Compact design
- High degree of investment protection
- Fast integration capability
- Front panel versions:
  - 12“, 15“ and 19“ TFT Touch
  - 12“ and 15“ TFT Key
  - 15" TFT Touch, stainless steel/INOX
- Operator control unit can be located at a distance of up to 30 m from the computer unit (optional)

Benefits

- High industrial capability thanks to extremely rugged design, even resistant against strong vibration and impact loads
- High investment security thanks to assured availability of spare parts (for a period of 5 years following the end of active marketing)
- Optimum continuity of components for long-term machine concepts without the need for repeated engineering outlay
- Time and cost savings thanks to service-friendly equipment design:
  - Operator control unit and computer unit can be simply hinged open for fast replacement of components or for future expansion
  - Front and rear USB 2.0 interfaces for quick and easy connection of additional hardware components
- High degree of industrial functionality thanks to integrated PROFIBUS DP/MPI and Ethernet interfaces
- Operational reliability:
  The optional direct key module can be used to run the process independently of the operating system and without delay directly via PROFIBUS DP.
- 2 x ≥ 60 GB SATA hard disk system (RAID1 controller function is integrated into the chip set and can be connected to implement a mirror disk system over BIOS)
- Minimization of downtimes through increased system availability
  - Efficient self-diagnosis (SIMATIC PC DiagMonitor)
  - Solutions for preventive data backup
- Integral component of Totally Integrated Automation (TIA): increased productivity, minimized engineering outlay, reduced life cycle costs
- Additional installation possibilities by separating the computer unit and operator control unit using the Remote Kit (up to 30 m, available optionally as an accessory)

Application

The SIMATIC Panel PC 677 is conceived for use direct on site at the machine. Due to the lower mounting depth of only 105/130 mm, it can also be used where mounting space is at a premium.

The PC is used in both production automation and in process automation and is installed in control cabinets and desks, 19" cabinets/racks and swivel arms (gantries).

With the 15" Touch INOX front, it is permissible to use the Panel PC 677 in the food and beverages industry.

A SIMATIC Panel PC is the ideal platform for PC-based Automation:

- PC-based visualization locally at the machine with SIMATIC WinCC flexible
- Complex solutions with SIMATIC WinCC process visualization
- PC-based Control with SIMATIC WinAC Software PLC or with SIMATIC WinAC Slot PLC

Siemens offers a complete modular system of automation components that complement one another perfectly.

The SIMATIC Panel PCs can be ordered in combination with WinCC flexible or WinCC as SIMATIC HMI packages at a special price (see SIMATIC HMI complete systems).

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SIMATIC Panel PC 677

Design

The Panel PC 677 comprises of a computer unit and an operator control unit.

Components of the computer unit:

- Rugged metal housing, resistant to vibrations and shocks, with high electromagnetic compatibility.
- Processor:
  - Mobile Intel 915 GM Express Chipset
  - Intel Celeron M 370/1.5 GHz or
  - Intel Pentium M 730/1.6 GHz or
  - Intel Pentium M 760/2.0 GHz
- Main memory, standard configuration: 256 MB
- 3.5“ SATA hard disk: ≥ 40 GB; the special vibration-absorbing hard disk holder ensures reliable operation even in case of extremely high mechanical loading
- Graphics on-board
- Interfaces:
  - 2 x 10/100 Ethernet on-board
  - PROFIBUS DP/MPI on-board, electrically isolated
  - 4 x USB 2.0 connection
  - 1 x serial V.24 (9-pin)
- Free slots for expansion:
  - 2 x PCI (slots with card retainer)
  - 1 x slot for Compact Flash Card
- Power supply: 110 V/230 V AC (autorange), 50/60 Hz or 24 V DC

Optional additional components:

- Main memory expansion to 512 MB, 1 GB or 2 GB
- SATA hard disk ≥ 80 GB
- Double hard disk module 2 x ≥ 60 GB SATA
- DVD-ROM drive
- DVD±RW± R combination drive
- Direct control key module

Components of the operator control unit:

The operator control units are available in the following versions:

12" Key

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Membrane keyboard with international PC character set and 36 additional function keys with LED and an integrated mouse

12" Touch

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Resistive analog touch screen

15" Key

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Membrane keyboard with international PC character set and 36 additional function keys with LED and an integrated mouse

15" Touch

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Resistive analog touch screen

15" Touch stainless steel / INOX

- 15.1" TFT color display, 1024x768 (XGA)
- Resistive analog touch screen
- Stainless steel front, designed for use in the food & beverages industry
- Developed based on DIN EN 1672-2
- Polished surface (stainless steel 1.4301, hairline grinding, grain 240)
- IP66 at the front
- Without USB front interface
- Splash protection for the display
- Optimized frame profile, so that liquids can run off
- Minimal number of grooves and joints
- Decorative film tested against chemicals according to DIN 42115, Part 2
- Mounted only using tensioned frame, gasket material suitable for food (EDPM, according to FDA 21 CFR 177.2006)

19" Touch

- 19.1" TFT color display, 1280 x 1024 pixels (SXGA)
- Resistive analog touch screen

The operator control units feature a USB 2.0 port on the front for connecting external peripheral devices, such as a mouse or keyboard. They fulfill the requirements of degree of protection IP65 and NEMA 4. All operator control units are also available without a USB port on the front.

The computer unit is connected via a connecting cable attached at the rear of the operator control unit.

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Design (continued)

Expansion components

SIMATIC Panel PC Remote Kit

- Separation of computer unit and operator control unit
- At a maximum distance of up to 30 m
- Pure hardware solution, no need to install additional software
- Maintaining the full Panel PC front functionality

SIMATIC PC DiagMonitor

- PC diagnostics/signaling software for early detection and diagnostics of PC problems
- Comprehensive monitoring of temperature, fans, hard disks (SMART), watchdog
- Operating hours counter for preventive maintenance
- Integral recording function, comprehensive text messages, online help (German/English)
- Network-wide monitoring via SNMP and OPC interface possible

SIMATIC PC/PG Image & Partition Creator

- Software tool for preventive data backup of hard disk contents
- Fast, bit-exact restoration of system and data partitions; application software and special installations are also backed up.
- Software tool for adaptation of hard disk partitioning

3.5" disk drive, USB

The USB disk drive is provided for fast exchange of user data, e.g. recipes, or of files. The drive must not be used as a cyclic archiving drive. The front-panel installation and degree of protection IP54 permit data exchange from the front without opening the control cabinet door.

The device is connected via the USB interface of the Panel PC. The power is also supplied over the USB interface. The scope of delivery includes a 1 m long USB cable. The disk drive unit complies with the USB 1.1 standard. 3.5" high density diskettes can be used (1.44 MB).

Use of the USB diskette drive with SIMATIC Panel PCs:

- Windows XP: Possible without separate driver
- Windows 2000: the required driver is included in the scope of supply of the operating system

SIMATIC PC USB FlashDrive

- Mobile memory medium for SIMATIC PC/PG
- Fast data transfer (USB 2.0) and high memory capacity
- Ultra-compact and rugged

Industrial USB Hub 4

- USB peripherals can be connected and operated via the USB Hub 4 without opening the cabinet door
- Industry-standard USB 2.0 Hub, Front IP65
- Installation in cabinet door or on standard mounting rail
- Viewing window and LEDs for each of the four interfaces

Note:
Further information can be found under "Expansion components" in the Catalog ST 80 2006.

Function

- Integrated, parameterizable monitoring functions (program execution (watchdog), temperature inside casing, fan speed)
- Expanded diagnostics/messages over Ethernet, e-mail, text message and for feeding directly into SIMATIC software via OPC (optionally via SIMATIC PC DiagMonitor)
- RAID1 for automatic data mirroring on two SATA hard disks

Integration

Integrated interfaces

- Ethernet
  The integrated Ethernet interfaces (10/100 Mbit/s) can be used for IT communication and for data transfer to programmable controllers such as SIMATIC S7 (with software packages “SOFTNET S7”).
- PROFIBUS
  The isolated PROFIBUS interface (12 Mbit/s) can be used for connecting distributed field devices or for interfacing to SIMATIC S7 (with the software package "SOFTNET for PROFIBUS").
- Additional interfaces
  For connecting additional I/O devices, 2 spare slots are provided for PCI modules as well as a Compact Flash Card interface, 5 USB 2.0 interfaces (Universal Serial Bus) and a serial interface.

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SIMATIC Panel PC 677

Technical specifications

Front panel	12" TFT Touch	12" TFT Keys	15" TFT Touch	15" TFT Keys	19" TFT Touch
Display					
• Size	12"	12"	15"	15"	19"
• Resolution (W x H in pixels)	800 x 600	800 x 600	1024 x 768	1024 x 768	1280 x 1024
• MTBF backlighting (bei 25 °C)	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent	50000 h with 24 h continuous operation, temperature-dependent
Operating mode					
• Function keys	No	36 with LEDs	No	36 with LEDs	No
• Alphanumeric keyboard	No	Yes	No	Yes	No
• Touch screen (analog/resistive)	Yes	No	Yes	No	Yes
• Mouse at the front	No	Yes	No	Yes	No
Design					
• Centralized configuration	Yes	Yes	Yes	Yes	Yes
• Distributed configuration	Yes; using Remote Kit	Yes; using Remote Kit	Yes; using Remote Kit	Yes; using Remote Kit	Yes; using Remote Kit
Dimensions					
• Mounting cutout/operator control unit depth (W x H/D) in mm	368 x 290 / 141 (with optical drive)	450 x 290 / 122 (with optical drive)	450 x 290 / 138 (with optical drive)	450 x 321 / 141 (with optical drive)	450 x 380 / 147 (with optical drive)
• Mounting dimensions with centralized configuration (W x H x D, without optical drive) in mm	368 x 290 x 122	450 x 290 x 104	450 x 290 x 120	450 x 321 x 123	450 x 380 x 129
• Additional mounting depth (optical drive)	20 mm	20 mm	20 mm	20 mm	20 mm
• Operator control unit (W x H) in mm	400 x 310 (7 HU)	483 x 310 (19", 7 HU)	483 x 310 (19", 7 HU)	483 x 355 (19", 8 HU)	483 x 400 (19", 9 HU)
• Mounting dimensions for operator control unit with distributed configuration (W x H x D) in mm	368 x 290 x 87	450 x 290 x 69	450 x 290 x 85	450 x 321 x 89	450 x 380 x 94
• Mounting dimensions for CPU with distributed configuration (W x H x D) in mm	298 x 301 x 100; (298 x 301 x 80 without CD)	298 x 301 x 100; (298 x 301 x 80 without CD)	298 x 301 x 100; (298 x 301 x 80 without CD)	298 x 301 x 100; (298 x 301 x 80 without CD)	298 x 301 x 100; (298 x 301 x 80 without CD)
Weight					
• Panel PC in centralized configuration approx.	11 kg	11 kg	13 kg	14 kg	16 kg
• Operator control unit in distributed configuration approx.	6 kg	6 kg	8 kg	9 kg	11 kg
• CPU distributed configuration approx.	6 kg	6 kg	6 kg	6 kg	6 kg
General features					
• Accessories	Touch cover foils, Remote Kit	Keyboard labeling strips, direct key module, Remote Kit	Touch cover foils (not for Inox front), Remote Kit	Keyboard labeling strips, direct key module, Remote Kit	Touch cover foils, Remote Kit
• Expansion components	uninterruptible power supply (UPS), SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	uninterruptible power supply (UPS), SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	uninterruptible power supply (UPS), SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	uninterruptible power supply (UPS), SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4	uninterruptible power supply (UPS), SIMATIC NET communication modules, 3.5" USB disk drive, Image&Partition Creator, Industrial USB Hub 4
• Power loss with full configuration	max. 140 W (with 15 W per slot)	max. 140 W (with 15 W per slot)	max. 140 W (with 15 W per slot)	max. 140 W (with 15 W per slot)	max. 163 W (with 15 W per slot)

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Ordering data

Order No.

Panel PC configurator (contract-based production and delivery)

SIMATIC Panel PC 677	D	**6AV7 80■-■■■■■-■A■0**
Front panels		
• 12" TFT Touch		**0**
• 12" TFT Key		**1**
• 15" TFT Touch		**2**
• 15" TFT Key		**3**
• 19" TFT Touch		**4**
Options for the front		
• With front USB port		**0**
• Without front USB port		**1**
• INOX front, without front USB, only with 15" TFT Touch		**2**
Power supply		
• 24 V DC		**A**
• 110/230 V AC, power cable for Europe		**B**
Processor		
• Intel Celeron M 370/1.5 GHz, 400 MHz FSB, 1 MB SLC		**A**
• Intel Pentium M 730/1.6 GHz, 533 MHz FSB, 2 MB SLC		**B**
• Intel Pentium M 760/2.0 GHz, 533 MHz FSB, 2 MB SLC		**C**
Main memory		
• 256 MB DDR2		**0**
• 512 MB DDR2		**1**
• 1 GB DDR2		**2**
• 2 GB DDR2		**3**
Mass storage		
• 40 GB SATA hard disk		**0**
• 80 GB SATA hard disk		**1**
• RAID1 double hard disk module 2 x 60 GB SATA RAID		**2**
Optical drives		
• without		**0**
• DVD-ROM		**1**
• DVD±RW± R combination drive		**2**
Operating system		
• without operating system		**A**
• Windows 2000 Professional Multi-Language [1]		**B**
• Windows XP Professional Multi-Language [1]		**C**

1) Multi-Language comprises: Eng/Ger/Fr/It/Sp/CHIN traditional/ CHIN simplified/Korean/Japanese

D) Subject to export regulations: AL: N and ECCN: 5D992B1

G) Subject to export regulations: AL: N and ECCN: 4A994

Delivery versions (ex stock)

		Order No.
12" TFT Touch 110/230 V AC power supply Intel Pentium M 730, 1.6 GHz 512 MB RAM 40 GB hard drive DVD-ROM drive without operating system	G	**6AV7 800-0BB10-1AA0**
12" TFT Keys 110/230 V AC power supply Intel Pentium M 730, 1.6 GHz 512 MB RAM 40 GB hard drive DVD-ROM drive without operating system	G	**6AV7 801-0BB10-1AA0**
15" TFT Touch 110/230 V AC power supply Intel Pentium M 730, 1.6 GHz 512 MB RAM 40 GB hard drive DVD-ROM drive without operating system	G	**6AV7 802-0BB10-1AA0**
15" TFT Keys 110/230 V AC power supply Intel Pentium M 730, 1.6 GHz 512 MB RAM ≥ 40 GB hard drive DVD-ROM drive without operating system	G	**6AV7 803-0BB10-1AA0**
19" TFT Touch 110/230 V AC power supply Intel Pentium M 730, 1.6 GHz 512 MB RAM ≥ 40 GB hard drive DVD-ROM drive without operating system	G	**6AV7 804-0BB10-1AA0**
12" TFT Keys 24 V DC power supply Intel Celeron M 370, 1.5 GHz 256 MB RAM ≥ 40 GB hard drive DVD-ROM drive Windows XP Professional	D	**6AV7 801-0AA00-1AC0**

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SIMATIC Panel PC 677

Ordering data		Order No.
Accessories		
Cover foil for Panel PCs 477/577/677/877 for protecting the touch screen against dirt/scratches (set of 10)		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
• for 19" Touch		**6AV7 672-1CE00-0AA0**
Labeling strips for Panel PCs 477/577/677/877 for labeling softkeys and function keys, blank, supplied in sets of 10		**6AV7 672-0DA00-0AA0**
Memory expansion		
• 128 MB DDR2 533 SODIMM	A	**6ES7 648-2AG10-0GA0**
• 256 MB DDR2 533 SODIMM	A	**6ES7 648-2AG20-0GA0**
• 512 MB DDR2 533 SODIMM	A	**6ES7 648-2AG30-0GA0**
• 1 GB DDR2 533 SODIMM	A	**6ES7 648-2AG40-0GA0**
Direct control key module for Panel PC 677/877	A	**6AV7 671-7DA00-0AA0**
Option pack for direct control key module **Transfer module for interface connection to 16 I/O**		**6ES7 648-0AA00-0XA0**
Non-heating apparatus cable for SIMATIC Box and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for:		
• Germany		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• U.S.A.		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
Fixing elements for 19" Panel PC 577, 677, 877 for screw mounting of 19" touch screen from the front		**6AV7 672-8KE00-0AA0**

		Order No.
Expansion components		
SIMATIC PC/PG DiagMonitor V2.2 Software tool for monitoring SIMATIC PCs, incl. manual, on CD-ROM (English/German)	A	**6ES7 648-6CA02-2YX0**
SIMATIC PC/PG Image & Partition Creator Software tool for data backup and hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	A	**6ES7 648-6AA03-0YX0**
3.5" disk drive, USB with 1 m connecting cable		**6FC5 235-0AA05-1AA2**
SIMATIC PC USB FlashDrive 512 MB, USB 2.0; metal enclosure, boot capability	A	**6ES7 648-0DC20-0AA0**
SIMATIC Panel PC Remote Kit for separate configuration of control unit and PC		
• 24 V DC, 5 m	A	**6AV7 671-1EA00-5AA1**
• 24 V DC, 10 m	A	**6AV7 671-1EA01-0AA1**
• 24 V DC, 20 m	A	**6AV7 671-1EA02-0AA1**
• 24 V DC, 30 m	A	**6AV7 671-1EA03-0AA1**
• 110/220 V AC, 5 m	A	**6AV7 671-1EA10-5AA1**
• 110/220 V AC, 10 m	A	**6AV7 671-1EA11-0AA1**
• 110/220 V AC, 20 m	A	**6AV7 671-1EA12-0AA1**
• 110/220 V AC, 30 m	A	**6AV7 671-1EA13-0AA1**
Uninterruptible power supplies		
SITOP power, 15 A DC UPS module with USB interface with charger unit for 24 V lead battery, input 24 V/16 A DC, output 24 V/15 A DC		**6EP1 931-2EC41**
SITOP power, battery module 24 V/3.2 Ah for DC UPS module 15 A		**6EP1 935-6MD11**
Industrial USB Hub 4 4 x USB 2.0 interfaces, IP65 for installation on cabinet door or on DIN rail	A	**6AV6 671-3AH00-0AX0**
Communication components		
PCI interface card with COM1, COM2 and LPT interfaces	A	**6ES7 648-2CA00-0AA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

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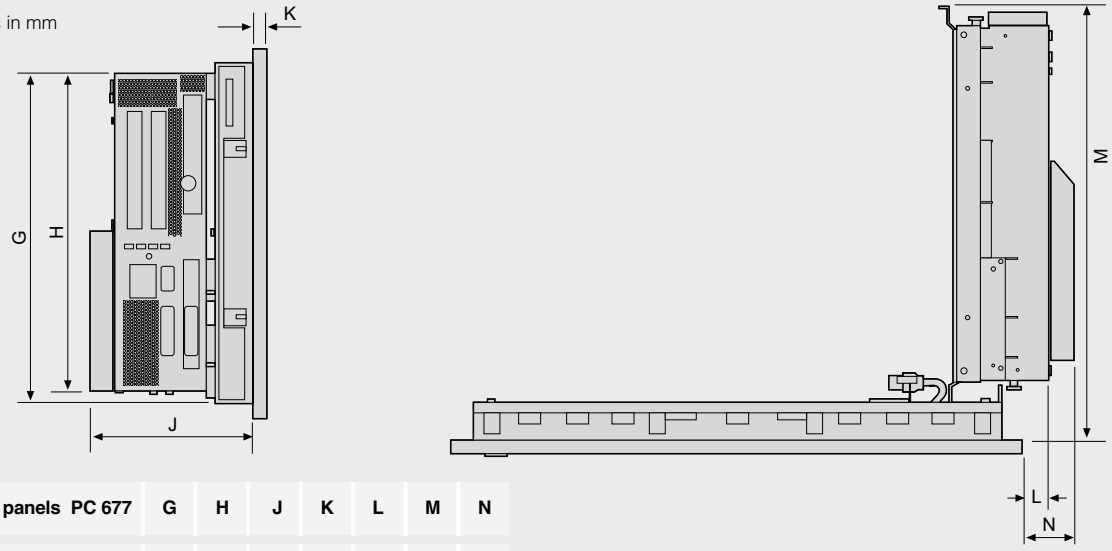
Dimension drawings

Dimensions in mm



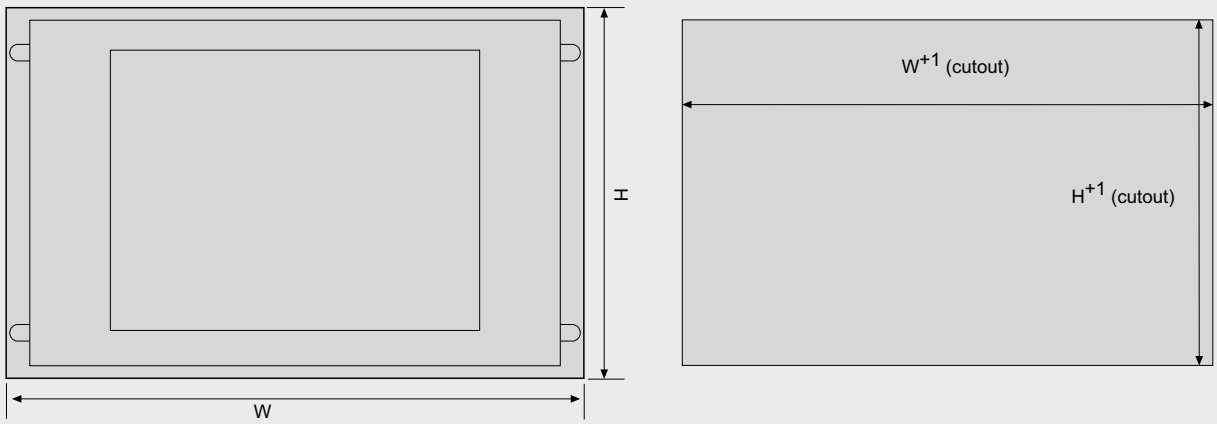
Operator panels PC 677	G	H	J	K	L	M	N
Touch panels							
12"	289	271	141	11	53	369	71
15"	289	271	138	11	24	367	42
19"	378	271	147	11	18	376	36
Key panels							
12"	289	271	122	11	42	351	59
15"	324	271	141	11	31	370	48

All dimensions without screw protrusions

G_ST80_EN_00208

Operator control unit and complete unit

Dimensions in mm



Front dimensions

Touch panels	W	H
12"	400	310
15"	483	310
19"	483	400

Key panels	W	H
12"	483	310
15"	483	355

Installation cutouts

Touch panels	W^{+1}	H^{+1}
12"	368	290
15"	450	290
19"	450	380

Key panels	W^{+1}	H^{+1}
12"	450	290
15"	450	321*

* In addition: two 25 x 5 mm recesses on the top side for keyboard slide-in label channels

G_ST80_XX_00239

Mounting cutout

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More information

Additional information can be found in the Internet under:
http://www.siemens.com/panel-pc

Note
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

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HMI Software

4

4/2 **SIMATIC WinCC flexible**
4/2 SIMATIC WinCC flexible ES
4/7 SIMATIC WinCC flexible RT

4/11 **SCADA-System SIMATIC WinCC**
4/11 SIMATIC WinCC V6.0 SP4
4/15 WinCC Options
4/18 WinCC Add-ons
and partner management

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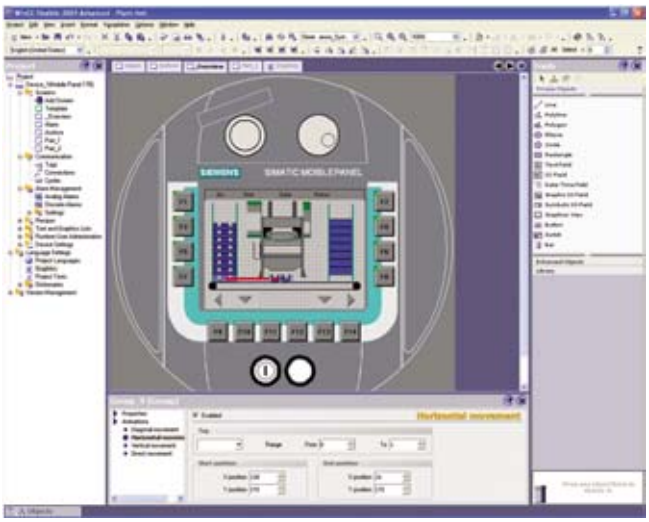
SIMATIC WinCC flexible ES

Overview



- Uniform family of **engineering tools** for configuring SIMATIC HMI Operator Panels, the operator control part of SIMATIC C7 units, SIMOTION/SINUMERIK Panel PCs as well as the PC-based visualization software WinCC flexible Runtime
- Executable under Windows 2000/XP Professional
- **Current version:**
  - SIMATIC WinCC flexible 2005 SP1 Advanced
  - SIMATIC WinCC flexible 2005 SP1 Standard
  - SIMATIC WinCC flexible 2005 SP1 Compact
  - SIMATIC WinCC flexible 2005 SP1 Micro

Benefits

- Uniformity of configuration software reduces training, maintenance and updating requirements, and guarantees future compatibility
- Minimization of engineering requirements and reduction in life cycle costs through Totally Integrated Automation (TIA)
- Minimization of configuration requirements through repeated use of scalable, dynamic objects
- Intelligent tools for simple and efficient configuration:
  - Wizard for definition of basic structure for an HMI project
  - Table-based editors simplify the generation and processing of objects of the same type, e.g. for variables, texts or messages
  - Graphic configuration simplifies complex tasks such as the definition of trajectories or the generation of fundamental operator prompting
- Comprehensive support of multi-language configurations for global use
  - Selectable views for multi-language input of configuration data
  - System-specific and user-specific dictionaries
  - Export/import of language-dependent texts
- Investment protection through
  - Importing of configuration from the configuration tools of the ProTool range
  - Transfer of static picture components and variables from WinCC V6.0

Application

SIMATIC WinCC flexible Micro/Compact/Standard/Advanced are innovative engineering tools for configuring SIMATIC HMI devices, the operating component of SIMATIC C7 devices, the SIMOTION/SINUMERIK Panel PCs, and the PC-based visualization system WinCC flexible Runtime.

Various target systems can be configured depending on the selected product:

- **WinCC flexible Micro**
  - Micro Panels: OP 73micro, TP 170micro, TP 177micro
- **WinCC flexible Compact**
  - Micro Panels: OP 73micro, TP 170micro, TP 177micro
  - Mobile Panels: Mobile Panel 177
  - 70 Series Panels: OP 73, OP 77A, OP 77B
  - 170 Series Panels: TP 170A, TP 177A, TP 170B, TP 177B, OP 170B, OP 177B
  - C7 devices: C7-635 (Touch), C7-635 (Keys)
- **WinCC flexible Standard**
  - Micro Panels: OP 73micro, TP 170micro, TP 177micro
  - Mobile Panels: Mobile Panel 177, Mobile Panel 277
  - 70 Series Panels: OP 73, OP 77A, OP 77B
  - 170 Series Panels: TP 170A, TP 177A, TP 170B, TP 177B, OP 170B, OP 177B,
  - 270 Series Panels: TP 270, TP 277, OP 270, OP 277
  - 270 Series Multi Panels: MP 270B, MP 277
  - 370 Series Multi Panels: MP 370
  - C7 devices: C7-635 (Touch), C7-635 (Keys) , C7-636
- **WinCC flexible Advanced**
  - Micro Panels: OP 73micro, TP 170micro, TP 177micro
  - Mobile Panels: Mobile Panel 177, Mobile Panel 277
  - 70 Series Panels: OP 73, OP 77A, OP 77B
  - 170 Series Panels: TP 170A, TP 177A, TP 170B, TP 177B, OP 170B, OP 177B,
  - 270 Series Panels: TP 270, TP 277, OP 270, OP 277
  - 270 Series Multi Panels: MP 270B, MP 277
  - 370 Series Multi Panels: MP 370
  - C7 devices: C7-635 (Touch), C7-635 (Keys), C7-636
  - Standard PC
    SIMATIC Panel PC Panel PC 477, Panel PC 577, Panel PC 677, Panel PC 877
    SIMOTION Panel PC: P012K, P015K, P012T, P015T, PCR, PCR-Touch
    SINUMERIK Panel PC: OP010, OP012, OP015, TP012, TP015, OP015A

For configuration, an HSP (Hardware Support Package) is required that can be downloaded free of charge via the following link:
http://www4.ad.siemens.com/ww/view/com/19241467

Design

The engineering tools of the SIMATIC WinCC flexible range are based on one another. The available editors largely depend on the respectively configured target systems and their functions. A more comprehensive engineering tool such as WinCC flexible Standard also offers the facilities of the smaller engineering tools, e.g. WinCC flexible Compact or Micro.

Upgrading of a smaller engineering tool to a larger one is possible using a Powerpack. An exception is WinCC flexible Micro.

The scope of functions of the WinCC flexible engineering tools already includes project support for the Runtime options available for SIMATIC Panels or WinCC flexible Runtime, independent of the RT licenses purchased. Separate licensing is required for the target system in order to use the configured Runtime options.

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Function

Integration into automation systems

- Integration into SIMATIC STEP 7 (Version V5.3 and higher or Professional Edition 2004)
  - administration of the HMI projects within STEP 7
  - shared use of communication settings and process point definitions, i.e., symbols and messages
  - display of the HMI engineering objects in the SIMATIC manager of STEP 7
  - transfer of configuration data to PROFIBUS via routing
- Integration into Component Based Automation (CBA) with SIMATIC iMap (released separately)
  - management of CBA components with runtime and HMI components in SIMATIC iMap
  - connection of CBA components with/without HMI components in SIMATIC iMap
  - generation of HMI basic data in SIMATIC iMap for WinCC flexible Advanced, e.g. tag list and connected HMI modules

Configuration interface

- Innovative engineering tools based on the latest SW technology, Microsoft.NET
- Comprehensive and fast access to editors and project data via Workbench applications
- Adaptive user interface of engineering tools depending on configured target system
- User-definable user interface settings, e.g., layout, toolbars, object defaults

Project handling

- Device-independent configuration data can be used on a variety of target systems without the need for conversion; the interface adapts to the functional possibilities of the device currently configured.
- Cross-device utilization of common configuration data (e.g., text library) in multi-device projects
- Wizard-assisted definition of basic structure of HMI projects (e.g., display layout, operator prompting)

Screen editor with extensive options for efficient and fast screen configuration

- Generation of interconnected screen objects via Drag&Drop, e.g., tags for the creation of input/output fields with process interfacing or buttons with screen selection function
- Templates for the definition of global screen objects and functions (comparable with the Slide Master in MS PowerPoint)
- User-friendly editor for the creation of image blocks with defined external interface from screen objects
- Graphics-based configuration of motion paths
- Layer technology with up to 32 layers
- Tools for the Align, Rotate and Mirror functions

Import/export

- From texts for translation
- Import of variables and connections
- Generation of variable lists for importing from controller programming tools

Tabular editors

- Quick and easy generation and modification of configuration objects of the same type, e.g., variables, texts or messages, in tabular editors
- Intelligent defaults, depending on previously configured data, e.g., automatic upcounting of addresses when generating consecutive variables
- Modification of properties by means of easy access to Properties dialog without excessive user intervention ("Always on Top")
- Simultaneous modification of common object properties

Object-based data management with user-friendly search and edit options

- Cross-reference list with direct access to all objects, e.g. for editing or selection
- Search for objects in entire project
- Central reassignment of variables
- Text search and replace functions

Project documentation

- Selective project documentation printout or save to file (.pdf, rtf, htm, tif, txt)

Libraries for predefined/user-defined configuration objects

- Large number of scalable and dynamizable screen objects included in scope of delivery
- Size-scalable WMF-format graphics for industrial applications included in scope of delivery
- Preview function for library objects
- Storage of all engineering objects in library, e.g., blocks and even entire displays or variables; picture blocks can be created on a customer- or project-specific basis by combining simple screen objects. Changes to these picture blocks can be made centrally (block definition).

Language support

- Multilingual project creation (max. 32 languages) in editors thanks to selectable views
- Automatic translation on basis of system- and user-specific dictionaries in central text library
- Central management of language-specific texts and graphics in libraries
- Edit, export and import of texts for translation
- Language-specific graphics

Visual Basic Script support

- IntelliSense function for fast programming of access to runtime objects
- Easy creation of control sequences in script code; script debugging in Simulator and WinCC flexible Runtime

Graphics-based configuration of operator prompting

- Simple operator prompting concept based on hierarchical menu tree

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SIMATIC WinCC flexible ES

Function (continued)

Test and startup support

- Simulation of HMI projects on engineering PC
- Jump to error cause based on alarm messages in the Compiler
- Advanced ProSave service tool for all operating systems supported by WinCC flexible or ProTool

Scheduler for the definition of all global tasks

- Configuration of global system functions or time-driven events

Change Control (option)

- Management of project versions, with rollback and compare function
- Logging of configuration changes, e.g., for regulated industries

Default runtime data in engineering tools

- Users and passwords
- Recipe data records

Migration of existing HMI projects

- Complete data transfer in projects for ProTool/Pro RT as well as 170, 270 and 370 Series control units
- Conversion of configuration data with OP/TP27 and OP/TP37; analog conversion within ProTool V6.0
- Conversion of OP3 or OP7 configuration data to OP73 or OP77B
- Transfer of WinCC V6.0 project components (in version 2004/2005 static picture components and variables only)

Compatibility

- Integrated upward compatibility Further processing of WinCC flexible configuration data with future versions without loss of data
- Integrated downward compatibility: Generation of configuration data for older versions of WinCC flexible engineering tools (can be used with versions > 2004)

System requirements for	WinCC flexible Engineering Software
Operating system	Windows 2000 SP4, Windows XP Professional SP1 and SP2 For multi-language configuration: Windows 2000 SP4 MUI, Windows XP Professional SP1 and SP2 MUI For SIMATIC WinCC flexible 2005 SP1 Micro: addition. Windows XP Home SP1/SP2
Processor	Pentium 4 (or similar) processor with 1.6 GHz or higher
Resolution	1024 x 768 or higher
Main memory	RAM ≥ 1 GB, ≥ 512 MB with WinCC flexible Micro
Hard disk (free memory space) 1)	≥ 1 GB
Disk drive 2)	3.5"/1.44 MB
CD-ROM	for Software installation

1) In addition to the space needed by WinCC flexible, Windows also requires space on the hard disk; e.g., for the swap file. The following formula has proven itself in the past: The size of the swap file = 3 x the size of the RAM. For further information, refer to your Windows documentation

2) For license key transfer. The license key can also be transferred by USB storage medium.

Options

SIMATIC WinCC flexible/Change Control

WinCC flexible/Change Control enables consistent backup of configuration data. Delivered customer projects, approved reference states or development stages are managed in a database. Changes to project data can be integrated without problem into the version management using new versions. A rollback is possible at any time.

The history of changes can be verified down to the last detail for applications requiring interruption-free proof for the complete life cycle of a product. Comparisons between configuration data permit recognition of differences between project versions.

Note:
For further information, refer to "WinCC flexible ES options".

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Ordering data

		Order No.
WinCC flexible 2005 SP1 Advanced Floating license, on CD-ROM incl. license key, includes: • Engineering software for configuring WinCC flexible Runtime as well as Micro Panels and 70/170/270/370 series Panels incl. C7-635/636 • SW for WinCC flexible/Change Control engineering option [1] • Simulation software [5] for WinCC flexible Runtime as well as Micro Panels and 70/170/270/370 series Panels incl. C7-635/636 • Native drivers • Electronic documentation (.pdf) in English, German, French, Italian, Spanish	D	**6AV6 613-0AA01-1CA5**
WinCC flexible 2005 SP1 Standard Floating license, on CD-ROM incl. license key, includes: • Engineering software for configuring Micro Panels and 70/170/270/370 series Panels incl. C7-635/636 • SW for WinCC flexible/Change Control engineering option [1] • Simulation software [5] • Native drivers • Electronic documentation (.pdf) in English, German, French, Italian, Spanish		**6AV6 612-0AA01-1CA5**
WinCC flexible 2005 SP1 Compact Floating license, on CD-ROM incl. license key, includes: • Engineering software for configuring Micro Panels and 70/170 series Panels incl. C7-635 • SW for WinCC flexible/Change Control engineering option [1] • Simulation software [5] • Native drivers • Electronic documentation (.pdf) in English, German, French, Italian, Spanish	D	**6AV6 611-0AA01-1CA5**
WinCC flexible 2005 SP1 Micro Floating license, on CD-ROM w/o license key, includes: • Engineering software for configuring Micro Panels • Electronic documentation (.pdf) in English, German, French, Italian, Spanish	D	**6AV6 610-0AA01-1CA8**
WinCC flexible/Change Control for WinCC flexible 2005 Compact/Standard/Advanced [4] Floating license, option, license key only	D	**6AV6 613-6AA01-1AB5**

1) A separate license for WinCC flexible/Change Control must be purchased for each engineering station.

2) Runtime licenses for WinCC flexible Runtime options must be purchased separately for each target system.

3) For a period of 12 months and for a fixed price, the customer is automatically provided with all upgrades and service packs for each installed WinCC flexible engineering system or option. The contract is automatically extended by a further year unless canceled up to 12 weeks prior to expiry.

		Order No.
Power Packs		
SIMATIC WinCC flexible Power Packs Single license, authorization only		
• WinCC flexible 2005 Standard to 2005 Advanced	D	**6AV6 613-2CD01-1AD5**
• WinCC flexible 2005 Compact to 2005 Advanced	D	**6AV6 613-2BD01-1AD5**
• WinCC flexible 2005 Standard to 2005 Standard	D	**6AV6 612-2BC01-1AD5**
Software Update Service		
Software Update Service SIMATIC WinCC flexible [3]		
• WinCC flexible Advanced	D	**6AV6 613-0AA00-0AL0**
• WinCC flexible Standard	D	**6AV6 612-0AA00-0AL0**
• WinCC flexible Compact	D	**6AV6 611-0AA00-0AL0**
Upgrades		
SIMATIC ProTool to SIMATIC WinCC flexible 2005 SP1		
• ProTool/Lite to WinCC flexible 2005 SP1 Compact	D	**6AV6 611-3AA01-1CE5**
• ProTool to WinCC flexible 2005 SP1 Standard	D	**6AV6 612-3AA01-1CE5**
• ProTool/Pro to WinCC flexible 2005 SP1 Advanced	D	**6AV6 613-3AA01-1CE5**
SIMATIC WinCC flexible 2004 to SIMATIC WinCC flexible 2005 SP1		
• WinCC flexible 2004 Compact to WinCC flexible 2005 SP1 Compact	D	**6AV6 611-0AA01-1CE5**
• WinCC flexible 2004 Standard to WinCC flexible 2005 SP1 Standard	D	**6AV6 612-0AA01-1CE5**
• WinCC flexible 2004 Advanced to WinCC flexible 2005 SP1 Advanced, incl. Change Control option [1]	D	**6AV6 613-0AA01-1CE5**
Versions for China/Taiwan/Korea/Japan		
WinCC flexible 2005 SP1 ASIA Standard Floating license, on CD-ROM incl. license key, includes: • Engineering software for configuring Micro Panels and 70/170/270/370 series Panels incl. C7-635/636 • Simulation software [5] for Micro Panels and Panels 70/170/270/370 series Panels incl. C7-635/636 • Native drivers • Electronic documentation (.pdf) in English, Japanese, Korean, simplified Chinese, traditional Chinese	D	**6AV6 612-0AA11-1CA5**

4) The Change Control option has not been released for integrated operation with STEP 7.

5) Not valid for: OP73micro, TP177micro, OP73, OP77A, TP177A.

D) Subject to export regulations: AL: N and ECCN: 5D992B1

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SIMATIC WinCC flexible ES

Ordering data		Order No.
Versions for China/Taiwan/Korea/Japan (continued)		
WinCC flexible 2005 SP1 ASIA Advanced Floating license, on CD-ROM incl. license key, includes: • Engineering software for configuring WinCC flexible Runtime as well as 70/170/270/370 Series Micro Panels and Panels incl. C7-635/636 • SW for WinCC flexible/Change Control engineering option [1] • Simulation software [2] for WinCC flexible Runtime as well as Micro Panels and 70/170/270/370 series Panels incl. C7-635/636 • Native drivers • Electronic documentation (.pdf) in English, simplified Chinese, traditional Chinese, Korean, Japanese	D	**6AV6 613-0AA11-1CA5**
Documentation (must be ordered separately)		
User Manual WinCC flexible Communication		
• German		**6AV6 691-1CA01-0AA0**
• English		**6AV6 691-1CA01-0AB0**
User Manual WinCC flexible Compact/Standard/Advanced		
• German		**6AV6 691-1AB01-0AA0**
• English		**6AV6 691-1AB01-0AB0**
• French		**6AV6 691-1AB01-0AC0**
• Italian		**6AV6 691-1AB01-0AD0**
• Spanish		**6AV6 691-1AB01-0AE0**
SIMATIC HMI Manual Collection Electronic documentation, on DVD 5 languages (English, French, German, Italian, Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	B	**6AV6 691-1SA01-0AX0**

1) A separate license for WinCC flexible/Change Control must be purchased for each engineering station.

2) Not valid for: OP73micro, TP177micro, OP73, OP77A, TP177A.

D) Subject to export regulations: AL: N and ECCN: 5D992B1

B) Subject to export regulations: AL: N and ECCN: EAR99S

More information

Additional information can be found in the Internet under:

http://www.siemens.com/wincc-flexible

Note

Do you need a specific modification or option for the products described here? Then look up "customer-specific products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

Service Pack 1 is also available for download free of charge on the Internet (Service Pack CD available on request).

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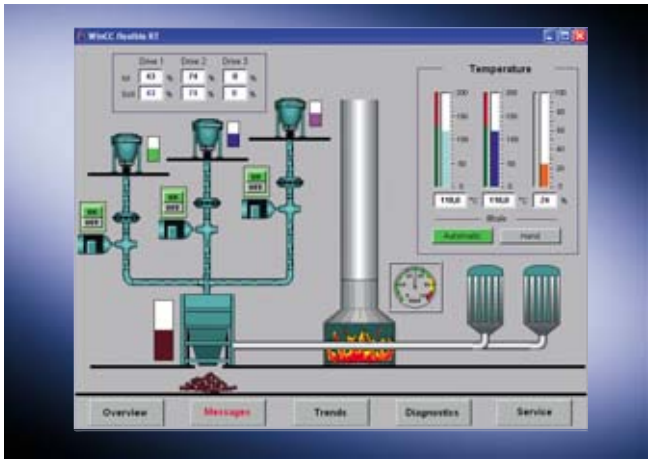
Overview



- **PC-based visualization software** for single-user systems directly at the machine
- Executable under Windows 2000/XP Professional
- **Current version:**
  - SIMATIC WinCC flexible 2005 SP1 Runtime with 128, 512 or 2048 PowerTags

Benefits

- Optimum price/performance ratio thanks to individually scalable system functionality
- Functions for all visualization tasks:
  Operator functions, graphical and plot representations, signaling system, log system, archiving (option), recipe management (option), Audit Trail (option), process fault diagnostics (option)
- Flexible runtime functionality thanks to Visual Basic scripts
- Innovative service concepts with remote operation, diagnostics and administration via intranet and Internet as well as e-mail communication to increase availability (option)
- Support for simple distributed automation solutions based on TCP/IP networks at the machine level (option)

Application

SIMATIC WinCC flexible Runtime is the high-performance visualization software for simple visualization tasks at machine level. It can be used as a single-user solution for all automation applications in manufacturing automation, process automation and building services automation.

SIMATIC WinCC flexible Runtime can be used in combination with the following operator panels:

- SIMATIC Panel PCs
  - Microbox 420
  - Panel PC 477
  - Panel PC 577
  - Panel PC 677
  - Panel PC 877
- SIMOTION Panel PCs
  - PCR, PCR-Touch
- SINUMERIK Panel PCs
  - OP010, OP012, OP015
  - TP012, TP015, OP015A
- Standard PCs with resolutions (W x H in pixels) of:
  - 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200

Design

SIMATIC WinCC flexible Runtime is available as a software package with 128, 512 and 2048 PowerTags. The term PowerTags is applied only to process variables that have a process connection to the PLC. Variables with no process link, constant limit values of variables and messages (up to 4000 bit-triggered messages) are also available as additional system performance.

The scope of WinCC flexible Runtime functions includes the central HMI components for visualization and signaling, and can be expanded appropriate to requirements and costs using option packages.

SIMATIC WinCC flexible Runtime is configured using the SIMATIC WinCC flexible Advanced configuration software.

Function

System requirements for	WinCC flexible Runtime
Operating system	Windows 2000 SP4, Windows XP Professional SP1 and SP2 Windows XP Embedded [1]
Processor [5]	
• Minimum	Pentium II, 233 MHz
• Recommended	≥ Pentium III, 500 MHz
Graphics	
• Minimum	VGA
• Recommended	SVGA with hardware acceleration
Resolution	
• Minimum	640 x 480
• Recommended	1024 x 768 to 1600 x 1200
RAM [2]	
• Minimum	128 MB
• Recommended	≥ 256 MB
Hard disk (free memory space) [3]	≥ 100 MB
Disk drive [4]	3.5"/1.44 MB
CD-ROM	for Software installation

1) Only for enabled platforms (e.g. Panel PC 477). You can get information from your Siemens contact.
2) RAM requirements are determined primarily by the size of the graphics used.
3) Without taking archives into account.
   In addition to the space needed by WinCC flexible, Windows also requires space on the hard disk; e.g., for the swap file. The following formula has proven itself in the past: The size of the swap file = 3 x the size of the RAM.
   For further information, refer to your Windows documentation
4) For the authorization of the runtime software, for transfer of the license key The license key can also be transferred by USB storage medium.
5) More powerful systems (Pentium 4 and higher) may be required in order to use options

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SIMATIC WinCC flexible RT

Integration

SIMATIC WinCC flexible Runtime supports linking to:

Protocol	PC-Schnittstellen
SIMATIC S5 via AS511 (TTY)	
S5-90U	COM1/COM2
S5-95U	
S5-100U (CPU 100, 102, 103)	
S5-115U (CPU 941, 942, 943, 944, 945)	
S5-135U (CPU 928A, 928B)	
S5-155U (CPU 946/947, 948)	
SIMATIC S5 via PROFIBUS DP [1]	
S5-95U/L2-DP Master	CP 5512 [2] CP 5611 A2 [2]
S5-115U (CPU 941, 942, 943, 944, 945)	
S5-135U (CPU 928A, 928B)	
S5-155U (CPU 946/947, 948)	
SIMATIC S7 via PPI	
S7-200	CP 5512 [2] CP 5611 A2 [2] CP 5613 A2 [2] [15] CP 5614 A2 [2] [15] PC/PPI adapter [3]
SIMATIC S7 via MPI	
S7-200 (not CPU 212) [4]	CP 5512 [2] CP 5611 A2 [2] CP 5613 A2 [2] [15] CP 5614 A2 [2] [15] PC/MPI-Adapter [6] PC-Adapter USB [6] Teleservice V5.1
S7-300	
S7-400	
WinAC Basis (V3.0 and higher)	
WinAC RTX	
SIMATIC S7 via PROFIBUS DP [5]	
S7-215 [4]	CP 5512 [2] CP 5611 A2 [2] CP 5613 A2 [2] [15] CP 5614 A2 [2] [15]
S7-300 CPUs with integr. PROFIBUS-SS	
S7-300 with CP 342-5	
S7-400 CPUs with integr. PROFIBUS-SS	
S7-400 with CP 443-5 or IM 467	
WinAC Basis (V3.0 and higher)	
WinAC RTX	
SIMATIC S7 via Ethernet (TCP/IP) [14]	
S7-200 with CP 243-1	CP 1612 [7] [14] CP 1613 A2 [8] [15]
S7-300 with CP 343-1	
S7-400 with CP 443-1	
WinAC Basis (V3.0 and higher)	
WinAC RTX	
SIMATIC S7 using integr. interface	
WinAC Basis (V2.0 and higher)	internal system interface
WinAC RTX	
SIMATIC 505 NITP	
SIMATIC 500/505 RS 232/RS 422	COM1/COM2
SIMATIC 505 via PROFIBUS DP	
SIMATIC 545/555 with CP 5434	CP 5512 [2] CP 5611 A2 [2]

Protocol	PC-Schnittstellen
SIMOTION [9]	
SINUMERIK [10]	
PLCs from other manufacturers	
Allen Bradley (DF1/DH485) [11]	COM1/COM2
GE Fanuc (SNP/SNPX)	COM1/COM2
LG GLOFA GM	COM1/COM2
Mitsubishi (FX/MP4)	COM1/COM2
Modicon (Modbus)	COM1/COM2
Modicon (Modbus TCP/IP))	CP 1612 [1]
OMRON (Link/Multilink)	COM1/COM2
Telemecanique Unitelway (as download)	COM1/COM2
OPC (Client + Server) [11] [13]	
Data Access V2.0 + V1.1 (COM) / V1.0 (XML) Client only	CP 1612 [7]
HTTP communication for data exchange between SIMATIC HMI (client + server) [12] [13]	CP 1612 [7]

1) WinCC flexible RT is passive (DP slave); the function block required for the link is included in the scope of delivery of WinCC flexible.
2) For Panel PC 477/677/877 via internal MPI interface
3) Only point-to-point to S7-200; no configuration download, operating systems: Windows 2000/XP;
Order No.: 6ES7 901-3CB30-0AX0
4) Constraint with regard to baud rate for S7-200; see Catalog ST 70
5) WinCC flexible RT is active (master); communication with S7 functions
6) Only point-to-point to S7-300/-400;
no configuration download, operating systems:
Windows 2000/XP;
Order No.: 6ES7 972-0CA23-0XA0 (COM) or
6ES7 972-0CB20-0XA0 (USB)
7) For MicroBox 420 and Panel PC 477/677/877 via internal Ethernet interface
8) Also required: S7-1613 2005 (6GK1 716-1CB63-3AA0)
9) For further information, see Catalog PM 10
10) "SINUMERIK HMI copy license OA" option required; for further information, see Catalog NC 60
11) OPC Client included in scope of delivery, "WinCC flexible/OPC Server for WinCC flexible Runtime" required for OPC Server
12) "WinCC flexible/Sm@rtAccess for WinCC flexible Runtime" options required
13) OPC and HTTP communication are additive, i.e., can be used in conjunction with the PLC links listed above
14) A Softnet Lean License is supplied with every WinCC flexible 2005 Runtime package. This means that an Ethernet link to SIMATIC S7 (max. 8 connections) is included in the basic package.
15) When used with WinCC flexible, only released for communication with SIMATIC S7; no configuration download

For information about SIMATIC Panels that support OPC/http communication, see the overview under "System interfaces".

Application note

In conjunction with each and every PLC link WinCC flexible Runtime supports the use of the OPC Client channel; this enables, for example, connection to an SNMP OPC Server for the purpose of visualizing the data stored there. The SNMP OPC Server provides a means of monitoring network components of any type (e.g. switches) which support the SNMP protocol. For further information, see Catalog IK PI.

Note:
For further information, see "HMI devices/System interfaces"

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Ordering data		Order No.
SIMATIC WinCC flexible 2005 SP1 Runtime		
for PC systems; incl. SW for PC systems options [1] Single license, on CD-ROM incl. authorization, for:		
• 128 PowerTags (RT 128)	D	**6AV6 613-1BA01-1CA0**
• 512 PowerTags (RT 512)	D	**6AV6 613-1DA01-1CA0**
• 2048 PowerTags (RT 2048)	D	**6AV6 613-1FA01-1CA0**
Power Packs		
SIMATIC WinCC flexible 2005 Runtime		
Single license, only authorization for PowerTags, from		
• 128 to 512 PowerTags	D	**6AV6 613-4BD01-1AD0**
• 128 to 2048 PowerTags	D	**6AV6 613-4BF01-1AD0**
• 512 to 2048 PowerTags	D	**6AV6 613-4DF01-1AD0**
Upgrade		
SIMATIC ProTool/Pro RT to SIMATIC WinCC flexible 2005 SP1		
• ProTool/Pro Runtime 128 PowerTags to WinCC flexible 2005 SP1 Runtime 128 PowerTags [2]	D	**6AV6 613-3BB01-1CE0**
• ProTool/Pro Runtime 256 PowerTags to WinCC flexible 2005 SP1 Runtime 512 PowerTags [2]	D	**6AV6 613-3CD01-1CE0**
• ProTool/Pro Runtime 512 PowerTags to WinCC flexible 2005 SP1 Runtime 512 PowerTags [2]	D	**6AV6 613-3DD01-1CE0**
• ProTool/Pro Runtime 2048 PowerTags to WinCC flexible 2005 SP1 Runtime 2048 PowerTags [2]	D	**6AV6 613-3FF01-1CE0**
SIMATIC WinCC flexible 2004 Runtime to SIMATIC WinCC flexible 2005 Runtime	D	**6AV6 613-1XA01-1CE0**
• PowerTags incl. Runtime options for: - WinCC flexible /Sm@rtAccess - Sm@rtService - OPC server - Logs - Recipes - ProAgent		
Panel options: WinCC flexible 2004 to WinCC flexible 2005	D	**6AV6 618-7XX01-1AF0**
SIMATIC Panel options for WinCC flexible 2005:		
• WinCC flexible /Sm@rtAccess for SIMATIC Panel		
• WinCC flexible /Sm@rtService for SIMATIC Panel		
• WinCC flexible OPC server for SIMATIC Multi Panel		
• WinCC flexible ProAgent for SIMATIC Panel		

1) Runtime licenses for WinCC flexible Runtime options must be purchased separately for each target system.

2) each including a single license WinCC flexible /Archives and WinCC flexible /Recipes

A) Subject to export regulations: AL: N and ECCN: EAR99H

D) Subject to export regulations: AL: N and ECCN: 5D992B1

		Order No.
Versions for China/Taiwan/Korea/Japan		
SIMATIC WinCC flexible 2005 SP1 ASIA Runtime		
for PC systems; incl. SW for options for PC systems [1] Single license, on CD-ROM incl. authorization, for:		
• 128 PowerTags (RT 128)	D	**6AV6 613-1BA11-1CA0**
• 512 PowerTags (RT 512)	D	**6AV6 613-1DA11-1CA0**
• 2048 PowerTags (RT 2048)	D	**6AV6 613-1FA11-1CA0**
Documentation (must be ordered separately)		
User Manual WinCC flexible Runtime		
• German		**6AV6 691-1BA01-0AA0**
• English		**6AV6 691-1BA01-0AB0**
• French		**6AV6 691-1BA01-0AC0**
• Italian		**6AV6 691-1BA01-0AD0**
• Spanish		**6AV6 691-1BA01-0AE0**
Communication via Industrial Ethernet		
CP 1613-A2	A	**6GK1 161-3AA01**
PCI card (32 bits) for connecting a PG/PC to Industrial Ethernet (communications software must be ordered separately)		
S71613 Edition 2005		**6GK1 716-1CB63-3AA0**
Software for S7 and S5 communication, incl. PG/OP communication, OPC server and NCM PC; up to 120 connections, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on diskette, Class A, for 32-bit Windows XP Professional, 2003 Server, Windows 2000 Professional/Server; for CP 1613/CP 1613 A2 German/English		
CP 1612	A	**6GK1 161-2AA00**
PCI card (32 bits) for connecting a PG/PC to Industrial Ethernet (SOFTNET-S7 must be ordered separately).		

Note:

Service Pack 1 is also available for download free of charge on the Internet (from 2nd quarter of 2006; Service Pack CD available on request)

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SIMATIC WinCC flexible RT

Ordering data		Order No.
Communication via PROFIBUS		
CP 5613-A2 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately).		**6GK1 561-3AA01**
CP 5614-A2 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately).		**6GK1 561-4AA01**
S7-5613 Edition 2005 Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on diskette, Class A, for 32-bit Windows XP Professional; 2003 Server, 2000 Professional/Server, for CP 5613, CP 5613 A2, CP 5613 FO, CP 5614, CP 5614 A2, CP 5614 FO; German/English		**6GK1 713-5CB63-3AA0**
CP 5512 PCMCIA card (32-bit CARDBUS) for connecting a PG/Notebook to PROFIBUS or MPI (communications software included in WinCC flexible).		**6GK1 551-2AA00**
CP 5611-A2 PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC flexible basic package)	A	**6GK1 561-1AA01**
CP 5611 MPI Comprising CP 5611 A2 (32-bit) and MPI cable, 5 m	A	**6GK1 561-1AM01**
PC/PPI adapter RS 232, 9-pin; male with RS 232/PPI converter, max. 19.2 kbit/s		**6ES7 901-3CB30-0XA0**
PC/MPI adapter RS 232, 9-pin; male with RS 232/MPI converter		**6ES7 972-0CA23-0XA0**
PC adapter USB For Windows 2000/XP		**6ES7 972-0CB20-0XA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

More information

Additional information can be found in the Internet under:

http://www.siemens.com/wincc-flexible

Note

Do you need a specific modification or option for the products described here? Then look up "customer-specific products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

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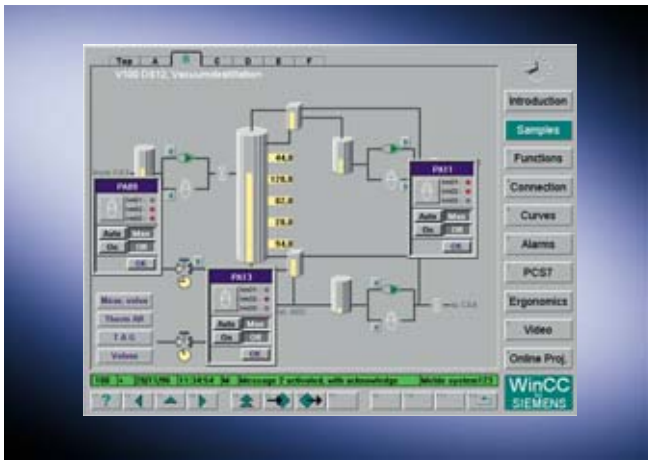
Overview



- PC-based operator control and monitoring system for visualizing and operating processes, production flows, machines and plants in all sectors – with the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with Web clients. WinCC is the information hub for corporation-wide vertical integration.
- The basic system configuration (WinCC basic software) includes industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization.
- The WinCC basic software forms the core of a wide range of different applications. Based on the open programming interfaces, a wide range of WinCC options (from Siemens A&D) and WinCC add-ons have been developed (by Siemens-internal and external partners).
- Current versions:
  - **SIMATIC WinCC V6.0 SP4:**
    Runs under Windows XP Professional/Windows 2003 Server and Windows 2000
  - **SIMATIC WinCC V5.1 SP2:**
    Runs under Windows NT 4.0/2000

Function

The powerful configuration functions of SIMATIC WinCC contribute to a reduced engineering and training overhead and lead to a more flexible use of personnel and greater operational reliability. If you are familiar with Microsoft Windows, you will be able to master WinCC Explorer, WinCC's central control point.

In combination with other SIMATIC components, the system makes use of additional functions such as process diagnostics and maintenance. All SIMATIC engineering tools work together when functions are configured.

SIMATIC WinCC offers a complete basic functionality for process visualization and operation. To this end WinCC has a number of editors and interfaces that can be used to individually configure this functionality according to the respective application.

Compatibility

WinCC Version	Windows NT4.0 SP6a	Windows 2000 Professional; Server; Advanced Server; with SP2, SP3, SP4	Windows XP Professional	Windows XP Professional with SP1/SP2	Windows Server 2003	Windows Server 2003 SP1	Internet Explorer
V5.1 SP2 [1]	●	●	–	–	–	–	IE V5.5 ; IE V6.0, IE V6.0 SP1
V6.0 SP4 [1]	–	●	●	●	●	●	IE V6.0 SP1
V5.1 ASIA [2]	●	●	–	–	–	–	IE V6.0
V6.0 SP3 ASIA [2]	–	●	●	●	●	–	IE V6.0 SP1

1) Released for Microsoft operating systems in language versions: German, English, French, Italianh, Spanish, MUI
2) Released for Microsoft operating systems in language versions: Chinese simplified, Chinese traditional, Korean, Japanese, English, MUI

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Technical specifications

Type	SIMATIC WinCC V5.1 SP2	SIMATIC WinCC V6.0 SP4
Operating system	Windows NT4.0, Windows 2000	Windows XP Professional SP1 or SP2, Windows 2000 Professional SP4, Windows 2000 Server SP4, Windows Server 2003 SP1
	Additional WebClient: Windows 98, Windows ME, Windows 2000 terminal services	Additional WebClient/Dat@Monitor Client: Windows NT 4.0 SP6a, Windows Server 2003, Windows XP Home SP1 or SP2, Windows 2000 Server terminal services, Windows Server 2003 terminal services
PC hardware requirements		
Processor type [1]		
• Minimum	Pentium II, 400 MHz	Single-user station/server: Pentium III, 800 MHz
		Central archive server: Pentium 4, 2 GHz
		Client: Pentium III, 300 MHz
		WebClient/Dat@Monitor Client: Pentium III, 300 MHz
• Recommended	Pentium III, 400 MHz	Single-user station/server: Pentium 4, 1400 MHz
		Central archive server: Pentium 4, 2.5 GHz
		Client: Pentium III, 800 MHz
		WebClient/Dat@Monitor Client: Pentium III, 800 MHz
Main memory RAM		
• Minimum	≥ 128/256 MB (single-user station/server), ≥ 128 MB (client) [2]	Single-user station/server: 512 MB
		Central archive server: 1 GB
		Client: 256 MB
		WebClient/Dat@Monitor Client: 128 MB
• Recommended	≥ 256 MB (single-user station/server), ≥ 256 MB (client) [2]	Single-user station/server: 1 GB
		Central archive server: ≥ 1 GB
		Client: 512 MB
		WebClient/Dat@Monitor Client: 256 MB
Graphics card		
• Minimum	SVGA (4 MB), 800 x 600	SVGA (16 MB), 800 x 600
• Recommended	XGA (8 MB), 1024 x 768	SXGA (32 MB), 1280 x 1024
Hard disk		
• Minimum	> 3 GB	Single-user station/server: 20 GB
		Client: 5 GB
		WebClient/Dat@Monitor Client: 5 GB
• Recommended	> 3 GB	Single-user station/server: 80 GB
		Client: 20 GB
		WebClient/Dat@Monitor Client: 10 GB
• Hard disk (free memory space for installation)		
- Minimum	650 MB	Server: 1 GB
		Client: 700 MB
- Recommended	≥ 650 MB	Server: > 10 GB
		Client: > 1.5 GB
CD-ROM/DVD-ROM/ Disk drive	for software installation	for software installation

1) An AMD system with similar power output can be used also.
2) With Online configuration 32 MB more minimum.

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Technical specifications (continued)

Type	SIMATIC WinCC V5.1 SP2	SIMATIC WinCC V6.0 SP4
Functionality / Quantity framework		
Messages (number)	50,000	50,000
• Message text (number of characters)	10 x 256	10 x 256
• Alarm archive	> 500,000 messages [1]	> 500,000 messages [1]
• Process value per messages	10	10
• Continuous load messages, max.	2/s	Central archive server: 100/s Server/single-user station: 10/s
• Burst of messages, max.	2,000 in 10 min	Central archive server. 15,000/10 sec. every 5 min Server/single-user station: 2,000/10 sec. every 5 min
Archives		
• Archive data points	Max. 30,000 per server	Max. 80,000 per server [2]
• Archive types	Short-term, sequence archives	Short-term, with and without long-term archiving
• Data storage format	Sybase SQL 7 or Dbase III [3]	Microsoft SQL Server 2000
• Measured values per second, max.	Server/single-user station: 360/s (500/s dBase III)	Central archive server: 10,000/s Server/single-user station: 5,000/s
User Archive		
• Archives (recipes)	500	system-limited [1]
• Data records per user archive	65,536 [4]	65,536 [4]
• Fields per user archive	500 [4]	500 [4]
Graphics system		
• Number of screens	system-limited [1]	system-limited [1]
• Number of objects per screen	system-limited [1]	system-limited [1]
• Number of controllable fields per screen	system-limited [1]	system-limited [1]
Process variables	64 K [5]	64 K [5]
Trends		
• Curve windows per image	8	25
• Curves per curve window	15	80
User administration		
• User groups	28	128
• Number of users	128	128
• Authorization groups	999	999
Runtime languages	> 9 per project	> 9 per project
Configuration languages	5 European (ger, eng, fre, ita, spa), 4 Asian (simpl.+trad. chi / kor / jpn)	5 European (ger, eng, fre, ita, spa), 4 Asian (simpl.+trad. chi / kor / jpn)
Reports		
• Message sequence reports (concurrent)	1 per server/single-user station	1 per server/single-user station
• Message archive reports (concurrent)	1	3
• Application reports	system-limited [1]	system-limited [1]
• Report lines per group	66	66
• Variables per report	300 [6]	300 [6]
Multi-user system		
• Server	6	12
• Clients for server with operator station	3	4
• Clients for server without operator station	16	32 Clients + 3 WebClients or 50 WebClients + 1 Client

1) Dependent on available memory space.
2) Dependent on number of licensed archive variables.
3) Dbase III only with TagLogging short-term archives.
4) The product of the number of fields and numer of data sets must not exceed a value of 320,000.
5) Dependent on number of licensed Power Tags.
6) The number of variables per report is dependent on process communication performance.

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SIMATIC WinCC

Ordering data

	Order No.
SIMATIC WinCC system software V6.0 SP4	
Runtime packages on CD-ROM	
Language/script versions: DE/EN/FR/IT/ES; with license for	
• 128 PowerTags (RT 128)	**6AV6 381-1BC06-0EX0**
• 256 PowerTags (RT 256)	**6AV6 381-1BD06-0EX0**
• 1024 PowerTags (RT 1024)	**6AV6 381-1BE06-0EX0**
• 8 K PowerTags (RT 8K)	**6AV6 381-1BH06-0EX0**
• 64 K PowerTags (RT Max)	**6AV6 381-1BF06-0EX0**
Incl. 512 archive tags each	
Complete packages on CD-ROM	
Language versions: DE/EN/FR/IT/ES; with license for	
• 128 PowerTags (RC 128)	**6AV6 381-1BM06-0EX0**
• 256 PowerTags (RC 256)	**6AV6 381-1BN06-0EX0**
• 1024 PowerTags (RC 1024)	**6AV6 381-1BP06-0EX0**
• 8 K PowerTags (RC 8K)	**6AV6 381-1BS06-0EX0**
• 64 K PowerTags (RC Max)	**6AV6 381-1BQ06-0EX0**
Incl. 512 archive tags each	

		Order No.
SIMATIC WinCC V6.0 SP3 and SP4 Powerpacks		
For upgrading from:		
• 512 to 1500 archive tags		**6AV6 371-1DQ06-0AX3**
• 512 to 5000 archive tags		**6AV6 371-1DQ06-0BX3**
• 512 to 30000 archive tags		**6AV6 371-1DQ06-0EX3**
• 512 to 80000 archive tags		**6AV6 371-1DQ06-0GX3**
• 1500 to 5000 archive tags		**6AV6 371-1DQ06-0AB3**
• 1500 to 30000 archive tags		**6AV6 371-1DQ06-0AE3**
• 1500 to 80000 archive tags		**6AV6 371-1DQ06-0AG3**
• 5000 to 30000 archive tags		**6AV6 371-1DQ06-0BE3**
• 5000 to 80000 archive tags		**6AV6 371-1DQ06-0BG3**
• 30000 to 80000 archive tags		**6AV6 371-1DQ06-0EG3**
SIMATIC WinCC Upgrade/Comprehensive Support		
WinCC V6 Upgrade [1]		
For upgrading the RT version:		
• from V5.x to V6.0 SP4	B	**6AV6 381-1AA06-0EX4**
• from V5.x ASIA to V6.0 SP3 ASIA		**6AV6 381-1AA06-0DV4**
For upgrading the RC version:		
• from V5.x to V6.0 SP4	B	**6AV6 381-1AB06-0EX4**
• from V5.x ASIA to V6.0 SP3 ASIA		**6AV6 381-1AB06-0DV4**

1) In accordance with license stipulations, 1 upgrade package must be ordered for each WinCC station.

B) Subject to export regulations: AL: N and ECCN: EAR99S

More information

Additional information can be found in the Internet under:
http://www.siemens.com/wincc

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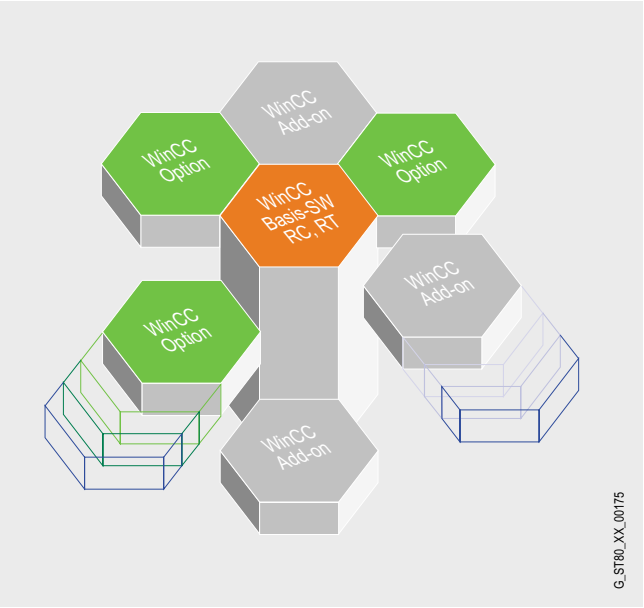
Overview



The universal WinCC basic software is the basis for modular expansions. These functional expansions can be obtained in the form of WinCC options and as WinCC add-ons.

WinCC options are created by WinCC Development and are Siemens Automation & Drives products. You can obtain support from our Advisory Services and via the central hotline.

More information

WinCC options

Additional information can be found in the Internet under:
http://www.siemens.com/wincc/options

Ordering data

	Order No.
WinCC/Server	
• for WinCC V6.0 SP3 and SP4	**6AV6 371-1CA06-0DX0**
Documentation (to be ordered separately)	
WinCC Options V6 manual Includes:WinCC User Archives, WinCC/Server and WinCC/Redundancy	
• German	**6AV6 392-1DA06-0AA0**
• English	**6AV6 392-1DA06-0AB0**
• French	**6AV6 392-1DA06-0AC0**
• Italian	**6AV6 392-1DA06-0AD0**
• Spanish	**6AV6 392-1DA06-0AE0**

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WinCC options

Ordering data	Order No.
WinCC/Web Navigator V6.1 SP1; for WinCC V6.0 SP4 2)	
• Base Pack (3client licenses)	**6AV6 371-1DH06-1AX1**
• 10 client licenses	**6AV6 371-1DH06-1BX1**
• 25 client licenses	**6AV6 371-1DH06-1CX1**
• 50 client licenses	**6AV6 371-1DH06-1DX1**
WinCC/Web Navigator Upgrade V1.x to V6.1 SP1	
• For 3 clients	**6AV6 371-1DH06-1AX6**
• For 10 clients	**6AV6 371-1DH06-1BX6**
• For 25 clients	**6AV6 371-1DH06-1CX6**
• For 50 clients	**6AV6 371-1DH06-1DX6**
WinCC/Web Navigator Diagnostics Client	
• For WinCC V6.0 SP4	**6AV6 371-1DH06-1EX1**
WinCC/Web Navigator Diagnostics Server	
• For WinCC V6.0 SP4	**6AV6 371-1DH06-1FX1**

1) V6.0 and higher in German, English, French, Italian, Spanish

System requirements – Web server

For WinCC/Web Navigator V6.1 SP1

- Windows 2000 Professional/Server Service Pack 4
- Windows XP Professional with Service Pack 1 or Service Pack 2
- Windows Server 2003 or Windows Server 2003 SP1
- Internet Explorer V6.0 SP1 or higher
- Microsoft SQL Server 2000 Service Pack 4 (scope of supply of WinCC)
- WinCC basic system from V6.0 SP4

For WinCC/Web Navigator V1.2 SP2

- Operating system:
  - Windows 2000 Professional with SP3 or SP4 with up to 3 Web clients
  - Windows 2000 Server with SP3 or SP4, for up to 50 Web clients
  - Windows NT 4.0 workstation with SP6a, with up to 3 Web clients; Windows NT 4.0 server with SP6a with up to 50 Web clients;

  in both cases the Windows NT 4.0 OptionPack is required (included in the scope of delivery)
- Internet Information Server (IIS)
  The IIS is included on the Windows 2000 CD. It is installed automatically with the Windows 2000 Server. If you are using Windows 2000 Professional, you will have to install the IIS separately. In Windows NT 4.0, it can be installed via the Option Pack supplied.
- Internet Explorer V5.01 or higher
- SIMATIC WinCC V5.1 SP2
- SIMATIC WinCC/Web Navigator Server installation

System requirements – Web client

For WinCC/Web Navigator V6.1 SP1

- Windows XP Professional with Service Pack 1 or Service Pack 2
- Windows 2000 Professional Service Pack 4
- Windows 2000 Server Service Pack 4
- Windows Server 2003 or Windows Server 2003 SP1
- Windows XP Home with Service Pack 1 or Service Pack 2
- Windows NT 4.0 SP6a or higher
- Windows 2000 Server terminal services
- Windows Server 2003 terminal services
- Windows XP embedded (only when using Panel PC 477)
- Internet Explorer V6.0 SP1 or higher

For WinCC/Web Navigator V1.2 SP2

- Windows XP Professional with Service Pack 1
- Windows XP Home
- Windows 2000 Professional Service Pack 2, 3 or Service Pack 4
- Windows NT SP6a
- Windows ME
- Windows 98
- Windows 2000 Server terminal services (Win9x, WinCE, Win3.x..)
- Internet Explorer V5.01 or higher

WinCC Web Navigator V1.2 China/Taiwan

(requires SIMATIC WinCC V5.1 China/Taiwan/Korea/Japan)

The functions included in this version differ from the standard version of WinCC/Web Navigator V1.2 as follows:

- Executability of the server and client on Windows 2000 MUI (Multilingual User Interface) and the relevant local language versions simplified Chinese and traditional Chinese.
- Executability of the client on Windows ME simplified Chinese and traditional Chinese
- Operation under Microsoft terminal services
- This version does not allow a Chinese Web Navigator client to access a non-Chinese server and vice versa.

WinCC Web Navigator V6.1 ASIA

(requires SIMATIC WinCC V6.0 SP3 ASIA)

The functions included in this version differ from the standard version of WinCC/Web Navigator V6.1 as follows:

- This version does not allow an Asian Web Navigator client to access a non-Asian server and vice versa.

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Ordering data	Order No.
WinCC/Redundancy	
• for WinCC V6.0 SP3 and SP4	**6AV6 371-1CF06-0DX0**
SIMATICWinCC/ProAgent	
Software option package for process error diagnosis based on S7 GRAPH V5 and higher and S7 PDIAG V5 and higher, functional enhancement for SIMATIC WinCC, electronic documentation in English, French and German; functions and standard screens for use on an FI45, PC (resolution 1024 x 768 pixels) and PanelPC577/677/87715" (resolution 1024 x 768 pixels) in English, French and German, runtime license (single license), for WinCC version:	
• V6.0 SP4 (ProAgent V6.0 SP3)	**6AV6 371-1DG06-0DX0**
WinCC/Dat@Monitor WebEdition V6.1 SP1; for WinCC V6.0 SP4	
• 3 client licenses	**6AV6 371-1DN06-1AX1**
• 10 client licenses	**6AV6 371-1DN06-1BX1**
• 25 client licenses	**6AV6 371-1DN06-1CX1**
• 50 client licenses	**6AV6 371-1DN06-1DX1**
WinCC/Connectivity Pack V6.1 SP1	**6AV6 371-1DR06-1AX1**

		Order No.
WinCC/IndustrialDataBridge		
V6.1 option for WinCC V6.0 SP3 and SP4		
for data exchange with databases and OPC servers, language versions: German/English		
• with 128 tags		**6AV6 371-1DX06-1AX0**
• with 512 tags		**6AV6 371-1DX06-1BX0**
• with 2048 tags		**6AV6 371-1DX06-1CX0**
• with 10000 tags		**6AV6 371-1DX06-1DX0**
WinCC/User Archives		
• for WinCC V6.0 SP3 and SP4		**6AV6 371-1CB06-0DX0**
SIMATICLogon Service		**6ES7 658-7BX31-2YA0**
Central user management for WinCC V6.0 SP3/SP4 or higher, runtime license for an operator station		
WinCC/Audit for WinCC V6.0 SP3 and SP4		
• WinCC/Audit RT V6.0 SP2 – Creation of audit trails in RT	B	**6AV6 371-1DV06-0AX2**
• WinCC/Audit RC V6.0 SP2 – Configuration of audit trails with RT license	B	**6AV6 371-1DV16-0AX2**
WinCC/ODK		
• V6.0 SP4; for WinCC V6.0 SP4		**6AV6 371-1CC06-0EX0**
WinCC/ODK upgrade		**6AV6 371-1CC06-0EX4**
to V6.0 SP4		

B) Subject to export regulations: AL: N and ECCN: EAR99S

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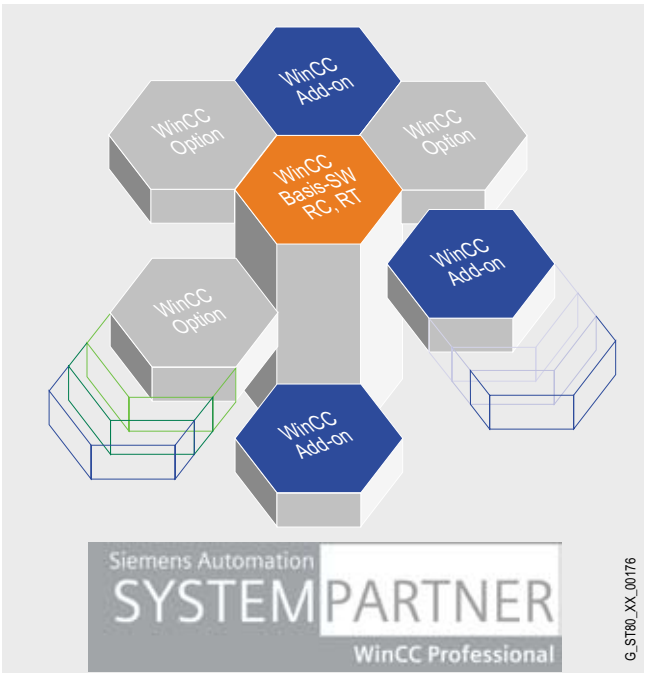
WinCC Add-ons and partner management

Overview



WinCC Add-ons – Solutions for all sectors and technologies

The basic system is designed to be independent of any specific technology or industrial sector, to be modular and flexibly expandable and to permit not only simple single-user applications in machine construction, but also complex multi-user solutions or even distributed systems with several servers and clients in plant engineering. WinCC Premium Add-ons are supplementary products that have been created by competent partners working in the specifc sectors and technologies and represent interesting expansions for WinCC.

WinCC Premium Add-ons are not A&D products, but the products of partners who are committed to compying with certain quality features and boundary conditions. The Premium Add-ons are checked, for example, in the Siemens Test Center for their compatibility with the basic WinCC system and supported in the first instance by the central Hotline. As they are important application- and sector-specific add-on products for SIMATIC WinCC, they are marketed jointly by Siemens and the respective add-on suppliers. The WinCC Premium Add-on products can be found on the Internet (see Further Information) and in the "Online WinCC Premium Add-on Catalog".

Premium Add-on for Connectivity:

- **PM OPEN Hosts**
  Connectivity tool for connection of SAP/R3
- **PM OPEN Export**
  for exporting WinCC data to local media or storage media released in the network
- **PM OPEN TCP/IP**
  permits the bidirectional exchange of WinCC data (tags, messages) with one or more computers that communicate via TCP/IP protocol
- **PM OPEN PI**
  permits a flexible and quickly configurable connection of WinCC to the PI software product (Plant Information System from OSI Inc.)

Premium Add-on for process management :

- **PM ANALYZE**
  for analysis of fault and operating messages, as well as process values.
- **PM CONTROL**
  is a recipe system for convenient generation and modification of recipes.
- **PM QUALITY**
  is an archive system for the administration of job and batch-related production and process data.

Premium Add-on for diagnostics and maintenance:

- **System diagnostics instrumentation and control**
  for reading out the status of the instrumentation and control
- **PM MAINT**
  is a tool for the maintenance of production plants
- **Alarm Management**
  for transmitting fault messages via various communication paths, such as GSM, LAN, Email

Premium Add-on for sector and technology solutions:

- **ACRON V6**
  is used for long-term archiving and logging of process data for small to medium-sized plants, specifically in the water supply and treatment industry.
- **Sm@rtlib HVAC**
  offers control and component blocks for heating, ventilation and air-conditioning (HVAC) systems.

Premium Add-on for configuration tools:

- **DCC TranslationEditor**
  for translating multi-lingual projects with in-built security, convenience and globalization features.

Competent partners

With SIMATIC HMI, you not only get excellent products to suit your requirements, but we will also support you with selecting a partner for your automation solution. In our global network of Siemens Automation Solution Providers you will always find competent partners in your neighborhood. In addition, we implement and support the Siemens-internal WinCC Competence Centers and the WinCC Professionals external system integrators on the basis of WinCC customer- and industry-specific and economic solutions.

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Overview (continued)

WinCC Competence Centers

Mannheim
Emphasis on process management
- Sector-independent solutions and products in the fields: Production, environmental protection, maintenance and diagnostics
- Connectivity tools, system integration, connection to SAP R/3
- Support of FDA validation and WinCC ODK
- Support for advanced users with application of ODK and VBA

Stuttgart
Emphasis on production technology
- Solutions for maintenance management
- Web-based solutions with WinCC

Erlangen
Emphasis on process automation
- MES connectivity
- Plant information, maintenance, batch and quality management
- Web-based solutions with WinCC
- Customized database interfacing

Barcelona
Emphasis on production automation and logistics
- Solutions for integration of WinCC into MES and ERP
- Development of WinCC add-ons

Nice
- Solutions in food and beverages industry, pharmaceuticals and process engineering
- Batch processes
- Migration of SIMATIC TI, Teleperm M and PCS systems to WinCC
- Custom made expansions
- FDA support
- Migration of TI plants

New

Nuremberg
Solutions in the Oil & Gas, Metal & Mining, Pulp & Paper sectors
- Network and security
- Microsoft Certified
- Migration from COROS to WinCC
- Customized expansions also for WinCC flexible
- Web solutions
- Customized workshops, e.g. training for VBS, VBA, C-

Additional information can be found in the Internet under:
http://www.siemens.com/wincc/competencecenter

Siemens Solution Partner Automation Specialists WinCC

Additional information can be found in the Internet under:
http://www.siemens.com/wincc-specialists

More information

WinCC Premium Add-on

Additional information can be found in the Internet under:
http://www.siemens.com/winCC/addons

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Customized Products

6

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6/19 Front panel with motion keys at side

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6/20 Panel PC 477 OEM
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6/28 Front panel 15" Touch and Key for Panel PC, resistant to honing oil
6/30 Flat Panels 6.4" and 10.4" for Panel PC

6/32 **Customized product examples for food, beverages and tobacco industries**
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Introduction

Overview

The introduction provides an overview of the range of possible customer-specific product modifications available for SIMATIC HMI products and includes examples for the various sectors.

It includes both customer-specific product modifications for fulfilling individual requirements as well as product examples for selected sectors such as the automotive industry, general mechanical engineering and the food and beverages industry.

Customized design products

The customized design SIMATIC HMI products are entirely compatible with standard products regarding engineering and functionality.

The similar technology enables the use of standard devices in case of unit failure if the machine or plant supplier does not have a customized product available in their own spare parts store at the time.

Integrated in the SIMATIC world, they are configured with SIMATIC WinCC flexible or WinCC. They differ from standard products only in design, i.e.:

- Different logo and type designation
- Different keyboard colors, key labels and key symbols
- Different housing color (front frame)

OEM products

OEM (original equipment manufacturer) products for OEM customers are suitable for individual industrial automation tasks that cannot be solved using standard products or panels that were simply modified in respect of their design.

Custom made products are individual solutions based on standard components. They are specified, offered, developed and supplied on an individual, customer-specific basis.

For this purpose, we simply combine - as in a system of building blocks - standard components, customized components and additional software function enhancements required to create a SIMATIC HMI OEM device.

Possible modifications:

- Changes to keyboard layout, key size/design and key layout SIMATIC HMI devices with modified layout are virtually identical to standard devices regarding engineering and functionality. They differ from standard products only in the keyboard configuration.

As panels with customized layout are compatible with standard devices with regard to mechanics and functionality, standard devices can replace customized ones in the event of unit failure. However, the keyboard/user interface will of course change.

- Custom made front dimensions and device mechanics, housings for desktop or support arm versions
- Different processors and memory media
- Different display technologies, sizes and resolutions
- Distributed configuration up to 500 m
- Additional modules or interfaces, e.g. direct control key module
- Freely-selectable Windows versions as operating system, preinstalled SIMATIC HMI software packages

It is frequently the case, however, that new OEM products can be based on existing OEM products efficiently and cost-effectively. In such cases, the end product is considered to be a customized modification of an existing OEM product.

Our OEM devices are available in all performance classes: from OEM Push Button Panels through Text Displays, Touch and Operator Panels right up to multifunctional platforms (MP) and Panel PCs with far-reaching changes in hardware, equipment and software. Customized OEM products are developed and produced in various stages in accordance with quality standards.

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Overview (continued)

Turnkey products

The SIMATIC turnkey products are assembled according to the customer's specifications. The HMI products of the turnkey products are installed e.g. in operator panels, that is in special enclosures, provided with the specified software, tested, and delivered ready-to-use.

Customized SIMATIC HMI turnkey products are ready-to-install and ready-to-use with the quality of series products, and all from one source:

- Optimized HMI operator panel: ergonomic, functional, certified and tested
- Optimum mechanical installation of devices, with defined high degree of protection
- Flexible design and wiring
- Variable installation (support arm, stand, wall mounting)
- Certified according to VDE, CE and UL (according to agreement and statutory directives)
- Vibration and shock-tested
- Packed for safe transport
- With passive cooling, and therefore with specified ambient temperature
- Customized software suite with electronic software release management

Benefits

- Identical systems within the plant
- Can be ordered with one Order No., one spare parts kit
- Short delivery times when calling ex-stock or ex-factory with quarterly planning forecast
- Service using project hotline with returned call within 8 h and tracking of problem report
- "PED" product passport enables identification of Panel PCs in the field

Open Platform Program

Open Platform Program software tools for the creation of software enhancements for ProTool, ProTool/Pro and WinCC flexible or customer applications based on SIMATIC HMI/WinCE platforms and Panel PC products.

The Open Platform Program supports the optimum implementation of customized hardware and software solutions. HMI platforms for other CE software can also be used if required. Customers can write their own software or add their own specific functions to WinCC flexible. Any Windows CE-based SIMATIC Panel (TP 170B and higher) (standard device or OEM configuration) can be used as a hardware platform. We can provide you with the necessary development package, including support services.

Software Development Kits (SDKs) contain the necessary software tools. They can be used for the implementation of the following software solutions:

- Customer-defined applications
- Expansions of WinCC flexible using proprietary ActiveX controls
- Project functions or tasks that interact with WinCC flexible

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Customized design

Overview

- SIMATIC HMI products of customized design are standard devices without technical modifications, where only the design has been changed. Devices of customized design are manufactured in the series production factory, and are subject to the same quality requirements as standard devices.
- The following modifications are possible individually or combined:
  Version A:
  Insertion of company name instead of Siemens logo, and modification of type designation
  Version B:
  Modification of keyboard colors, inscriptions of key symbols, and background color
  Version C:
  Modification of frame color
- In the context of the customized design, it is also possible to match the colors of various HMI products in order to achieve a uniform Corporate Identity. The associated costs will be calculated according to actual requirements.
- The creation of customized designs is handled by the HMI Design Center with professional industrial designers.
  The Design Center offers:
  - experience in the ergonomics of human-machine interfaces
  - knowledge in handling graphic and design tools, color tables and fonts
  - competence in the selection of appropriate fonts and standardized symbols for machine operation
  - short response times

Benefits

- Seamless adaptation to plant design and special operating philosophy of customer
- No reductions in ergonomics compared to the standard products
- The flexible manufacture of the SIMATIC HMI Panels means that even small ordering quantities can be efficiently produced with the customized design on the basis of the standard products.
- Can be replaced with standard devices and are fully compatible with the standard devices in:
  - Functions and interfaces
  - Configuration
  - Housing and mounting dimensions
  - Logistics and services
- “Corporate identity” for the client

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Selection and ordering data

Micro Panels

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Operator Panel OP 73micro	**6AV6 640-0BA11-0AX0**	A	**6AV6 640-5BA00-XXXX**	1 (from LZN)
		B	**6AV6 640-5BA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 640-5BA20-XXXX**	1 (from LZN)
Touch Panel TP 070	**6AV6 545-0AA15-2AX0**	A	**6AV6 545-5AA00-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5AC00-XXXX**	1 (from LZN)
		C [4]	**6AV6 640-5CA20-XXXX**	1 (from LZN)
Touch Panel TP 177micro	**6AV6 640-0CA11-0AX0**	A	**6AV6 640-5DA00-XXXX**	1 (from LZN)
		B	**6AV6 640-5DA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 640-5DA20-XXXX**	1 (from LZN)

Mobile Panels

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Mobile Panel 177 DP [3]	**6AV6 645-0AA01-0AX0**	A	**6AV6 645-5AA00-XXXX**	25
		B	**6AV6 645-5AA10-XXXX**	25
Mobile Panel 177 DP [3] with Stop pushbutton	**6AV6 645-0AB01-0AX0**	A	**6AV6 645-5AB00-XXXX**	25
		B	**6AV6 645-5AB10-XXXX**	25
Mobile Panel 177 DP [3] with Stop pushbutton	**6AV6 645-0AC01-0AX0**	A	**6AV6 645-5AC00-XXXX**	25
		B	**6AV6 645-5AC10-XXXX**	25
Mobile Panel 177 PN [3]	**6AV6 645-0BA01-0AX0**	A	**6AV6 645-5BA00-XXXX**	25
		B	**6AV6 645-5BA10-XXXX**	25
Mobile Panel 177 PN [3] with stop pushbutton	**6AV6 645-0BB01-0AX0**	A	**6AV6 645-5BB00-XXXX**	25
		B	**6AV6 645-5BB10-XXXX**	25
Mobile Panel 177 PN [3] with stop pushbutton	**6AV6 645-0BC01-0AX0**	A	**6AV6 645-5BC00-XXXX**	25
		B	**6AV6 645-5BC10-XXXX**	25
Mobile Panel 277 with enable switch	**6AV6 645-0CA01-0AX0**	A	**6AV6645-5CA00-XXXX**	25
		B	**6AV6645-5CA10-XXXX**	25
Mobile Panel 277 with enable switch and stop pushbutton	**6AV6 645-0CB01-0AX0**	A	**6AV6645-5CB00-XXXX**	25
		B	**6AV6645-5CB10-XXXX**	25
Mobile Panel 277 with enable switch, stop pushbutton, handwheel, key-switch and illuminated pushbutton	**6AV6 645-0CC01-0AX0**	A	**6AV6645-5CC00-XXXX**	25
		B	**6AV6645-5CC10-XXXX**	25

1) XXXX indicates customer code, assigned when order is placed
2) Products must always be ordered in multiples of “6” (e.g., 12, 18, 24 etc.)
3) Start of delivery 2 months after start of delivery of standard device
4) Possible color variants on request, if the plastic frame is being dyed, UL/CSA certification must be verified on a case-by-case basis

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Customized design

Selection and ordering data (continued)

Panels

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Operator Panel OP 73	**6AV6 641-0AA01-0AX0**	A	**6AV6 641-5AA00-XXXX**	1 (from LZN)
		B	**6AV6 641-5AA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 641-5AA20-XXXX**	1 (from LZN)
Operator Panel OP 77A	**6AV6 641-0BA11-0AX0**	A	**6AV6 641-5BA00-XXXX**	1 (from LZN)
		B	**6AV6 641-5BA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 641-5BA20-XXXX**	1 (from LZN)
Operator Panel OP 77B	**6AV6 641-0CA01-0AX0**	A	**6AV6 641-5CA00-XXXX**	1 (from LZN)
		B	**6AV6 641-5CA10-XXXX**	1 (from LZN)
		C	**6AV6 641-5CA20-XXXX**	1 (from LZN)
Operator Panel OP 277 6"	**6AV6643-0BA01-1AX0**	A	**6AV6643-5BA00-XXXX**	1 (from LZN)
		B	**6AV6643-5BA10-XXXX**	1 (from LZN)
		C [4]	**6AV6643-5BA20-XXXX**	1 (from LZN)
Touch Panel TP 170A	**6AV6 545-0BA15-2AX0**	A	**6AV6 545-5BA00-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5BC00-XXXX**	1 (from LZN)
Touch Panel TP 170B mono	**6AV6 545-0BB15-2AX0**	A	**6AV6 545-5CA00-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5CC00-XXXX**	1 (from LZN)
Touch Panel TP 170B color	**6AV6 545-0BC15-2AX0**	A	**6AV6 545-5DA00-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5DC00-XXXX**	1 (from LZN)
Touch Panel TP 177A	**6AV6 642-0AA11-0AX0**	A	**6AV6 642-5AA00-XXXX**	1 (from LZN)
		B	**6AV6 642-5AA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5AA20-XXXX**	1 (from LZN)
Touch Panel TP 177B PN/DP color [3]	**6AV6 642-0BA01-1AX0**	A	**6AV6 642-5BA00-XXXX**	1 (from LZN)
		B	**6AV6 642-5BA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5BA20-XXXX**	1 (from LZN)
Touch Panel TP 177B PN blue mode [3]	**6AV6 642-0BB01-1AX0**	A	**6AV6 642-5BB00-XXXX**	1 (from LZN)
		B	**6AV6 642-5BB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5BB20-XXXX**	1 (from LZN)
Touch Panel TP 177B DP blue mode [3]	**6AV6 642-0BC01-1AX0**	A	**6AV6 642-5BC00-XXXX**	1 (from LZN)
		B	**6AV6 642-5BC10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5BC20-XXXX**	1 (from LZN)
Touch Panel TP 177 B PN/DP color stainless steel	**6AV6 642-8BA10-0AA0**	A	**6AV6 642-8BA11-XXXX**	1 (from LZN)
		B	**6AV6 642-8BA12-XXXX**	1 (from LZN)
Operator Panel OP 170B	**6AV6 542-0BB15-2AX0**	A	**6AV6 542-5BB00-XXXX**	1 (from LZN)
		B	**6AV6 542-5BB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 542-5BB20-XXXX**	1 (from LZN)
Operator Panel OP 177B PN/DP color [3]	**6AV6 642-0DA01-1AX0**	A	**6AV6 642-5DA00-XXXX**	1 (from LZN)
		B	**6AV6 642-5DA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5DA20-XXXX**	1 (from LZN)
Operator Panel OP 177B PN blue mode [3]	**6AV6 642-0DB01-1AX0**	A	**6AV6 642-5DB00-XXXX**	1 (from LZN)
		B	**6AV6 642-5DB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5DB20-XXXX**	1 (from LZN)
Operator Panel OP 177B DP blue mode [3]	**6AV6 642-0DC01-1AX0**	A	**6AV6 642-5DC00-XXXX**	1 (from LZN)
		B	**6AV6 642-5DC10-XXXX**	1 (from LZN)
		C [4]	**6AV6 642-5DC20-XXXX**	1 (from LZN)

1) XXXX indicates customer code, assigned when order is placed
2) Products must always be ordered in multiples of "6" (e.g., 12, 18, 24 etc.)
3) Start of delivery 2 months after start of delivery of standard device
4) Possible color variants on request, if the plastic frame is being dyed, UL/CSA certification must be verified on a case-by-case basis

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Selection and ordering data (continued)

Panels (continued)

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Touch Panel TP 270 6"	**6AV6 545-0CA10-0AX0**	A	**6AV6 545-5FA00-XXXX**	1 (from LZN)
		B	**6AV6 545-5FA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5FA20-XXXX**	1 (from LZN)
Touch Panel TP 270 10"	**6AV6 545-0CC10-0AX0**	A	**6AV6 545-5FB00-XXXX**	1 (from LZN)
		B	**6AV6 545-5FB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5FB20-XXXX**	1 (from LZN)
Touch Panel TP 277 6"	**6AV6643-0AA01-1AX0**	A	**6AV6643-5AA00-XXXX**	1 (from LZN)
		B	**6AV6643-5AA10-XXXX**	1 (from LZN)
		C [4]	**6AV6643-5AA02-XXXX**	1 (from LZN)
Operator Panel OP 270 6"	**6AV6 542-0CA10-0AX0**	A	**6AV6 542-5FA00-XXXX**	1 (from LZN)
		B	**6AV6 542-5FA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 542-5FA20-XXXX**	1 (from LZN)
Operator Panel OP 270 10"	**6AV6 542-0CC10-0AX0**	A	**6AV6 542-5FB00-XXXX**	1 (from LZN)
		B	**6AV6 542-5FB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 542-5FB20-XXXX**	1 (from LZN)
Operator Panel OP 277 6"	**6AV6643-0BA01-1AX0**	A	**6AV6643-5BA00-XXXX**	1 (from LZN)
		B	**6AV6643-5BA10-XXXX**	1 (from LZN)
		C [4]	**6AV6643-5BA20-XXXX**	1 (from LZN)
Touch Panel TP 277 6"	**6AV6643-0AA01-1AX0**	A	**6AV6643-5AA00-XXXX**	1 (from LZN)
		B	**6AV6643-5AA10-XXXX**	1 (from LZN)
		C [4]	**6AV6643-5AA20-XXXX**	1 (from LZN)

1) XXXX indicates customer code, assigned when order is placed
2) Products must always be ordered in multiples of “6” (e.g., 12, 18, 24 etc.)
3) Start of delivery 2 months after start of delivery of standard device
4) Possible color variants on request, if the plastic frame is being dyed, UL/CSA certification must be verified on a case-by-case basis

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Customized design

Selection and ordering data (continued)

Multi Panels

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Multi Panel MP 270B 10" Touch	**6AV6 545-0AG10-0AX0**	A	**6AV6 545-5FC00-XXXX**	1 (from LZN)
		B	**6AV6 545-5FC10-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5FC20-XXXX**	1 (from LZN)
Multi Panel MP 270B 10" Keys	**6AV6 542-0AG10-0AX0**	A	**6AV6 542-5FC00-XXXX**	1 (from LZN)
		B	**6AV6 542-5FC10-XXXX**	1 (from LZN)
		C [4]	**6AV6 542-5FC20-XXXX**	1 (from LZN)
Multi Panel 277 8" Touch	**6AV6643-0CB01-1AX0**	A	**6AV6543-5CB00-XXXX**	1 (from LZN)
		B	**6AV6543-5CB10-XXXX**	1 (from LZN)
		C	**6AV6543-5CB20-XXXX**	1 (from LZN)
Multi Panel 277 8" Keys	**6AV6643-0DB01-1AX0**	A	**6AV6543-5DB00-XXXX**	1 (from LZN)
		B	**6AV6543-5CB10-XXXX**	1 (from LZN)
		C	**6AV6543-5CB20-XXXX**	1 (from LZN)
Multi Panel 277 10" Touch	**6AV6643-0CD01-1AX0**	A	**6AV6543-5CD00-XXXX**	1 (from LZN)
		B	**6AV6543-5CD10-XXXX**	1 (from LZN)
		C	**6AV6543-5CD20-XXXX**	1 (from LZN)
Multi Panel 277 10" Keys	**6AV6643-0DD01-1AX0**	A	**6AV6543-5DD00-XXXX**	1 (from LZN)
		B	**6AV6543-5DD10-XXXX**	1 (from LZN)
		C	**6AV6543-5DD20-XXXX**	1 (from LZN)
Multi Panel MP 277 10" Touch stainless steel	**6AV6 643-8AD10-0AA0**	A	**6AV6 643-8AD11-XXXX**	1 (from LZN)
		B	**6AV6 643-8AD12-XXXX**	1 (from LZN)
Multi Panel MP 370 12" Touch	**6AV6 545-0DA10-0AX0**	A	**6AV6 545-5EA00-XXXX**	1 (from LZN)
		B	**6AV6 545-5EA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-5EA20-XXXX**	1 (from LZN)
Multi Panel MP 370 12" Keys	**6AV6 542-0DA10-0AX0**	A	**6AV6 542-5EA00-XXXX**	1 (from LZN)
		B	**6AV6 542-5EA10-XXXX**	1 (from LZN)
		C [4]	**6AV6 542-5EA20-XXXX**	1 (from LZN)
Multi Panel MP 370 15" Touch	**6AV6 545-0DB10-0AX0**	A	**6AV6 545-0EB00-XXXX**	1 (from LZN)
		B	**6AV6 545-0EB10-XXXX**	1 (from LZN)
		C [4]	**6AV6 545-0EB20-XXXX**	1 (from LZN)
Multi Panel 370 15" Touch stainless steel	**6AV6 545-8DB10-0AA0**	A	**6AV6 545-8DB11-XXXX**	1 (from LZN)
		B	**6AV6 545-8DB12-XXXX**	1 (from LZN)

1) XXXX indicates customer code, assigned when order is placed
2) Products must always be ordered in multiples of “6” (e.g., 12, 18, 24 etc.)
3) Start of delivery 2 months after start of delivery of standard device
4) Possible color variants on request, if the plastic frame is being dyed, UL/CSA certification must be verified on a case-by-case basis

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Selection and ordering data (continued)

C7

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
C7-636 Keys	**6ES7 636-2EC00-0AE3**	A	**6ES7 636-2SA00-XXXX**	1 (from LZN)
		B	**6ES7 636-2SB00-XXXX**	1 (from LZN)
		C [4]	**6ES7 636-2SC00-XXXX**	1 (from LZN)
C7-636 Touch	**6ES7 636-2EB00-0AE3**	A	**6ES7 636-3SA00-XXXX**	1 (from LZN)
		B	**6ES7 636-3SB00-XXXX**	1 (from LZN)
		C [4]	**6ES7 636-3SC00-XXXX**	1 (from LZN)

Panel PC

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Panel PC 477 12" Keys, 15" Keys, 12" Touch 15" Touch, 19" Touch [3]	**depending on configuration**	A	**6AV7 45X-4AA00-XXXX**	5
		B	**6AV7 45X-4AB00-XXXX**	5
		C [4]	**6AV7 45X-4AB00-XXXX**	10
Panel PC 577 12" Keys, 15" Keys, 12" Touch 15" Touch, 19" Touch [3]	**depending on configuration**	A	**6AV7 45X-2AA00-XXXX**	5
		B	**6AV7 45X-2AB00-XXXX**	5
		C [4]	**6AV7 45X-2AB00-XXXX**	10
Panel PC 677 12" Keys, 15" Keys, 12" Touch 15" Touch, 19" Touch	**depending on configuration**	A	**6AV7 45X-0AA00-XXXX**	5
		B	**6AV7 45X-0AB00-XXXX**	5
		C [4]	**6AV7 45X-0AB00-XXXX**	10
Panel PC 677 15" Touch, stainless steel	**depending on configuration**	A	**6AV7452-0XA10-XXXX**	5
		B	**6AV7452-0XB10-XXXX**	5
Panel PC 877 12" Keys, 15" Keys, 12" Touch 15" Touch, 19" Touch	**depending on configuration**	A	**6AV7 45X-1AA00-XXXX**	5
		B	**6AV7 45X-1AB00-XXXX**	5
		C [4]	**6AV7 45X-1AB00-XXXX**	10

Flat Panels

Device type	Order no. of associated standard device	Design version	Order no. of associated design device [1]	Minimum order quantity per order
Flat Panel 12"	**depending on configuration**	A	**6AV7 456-1XX10-XXXX**	1 (from LZN)
		B	**6AV7 456-1XX20-XXXX**	1 (from LZN)
		C [4]	**6AV7 456-1XX30-XXXX**	1 (from LZN)
Flat Panel 15"	**depending on configuration**	A	**6AV7 456-2XX10-XXXX**	1 (from LZN)
		B	**6AV7 456-2XX20-XXXX**	1 (from LZN)
		C [4]	**6AV7 456-2XX30-XXXX**	1 (from LZN)
Flat Panel 19" [3]	**depending on configuration**	A	**6AV7 456-3XX10-XXXX**	1 (from LZN)
		B	**6AV7 456-3XX20-XXXX**	1 (from LZN)
		C [4]	**6AV7 456-3XX30-XXXX**	1 (from LZN)

1) XXXX indicates customer code, assigned when order is placed
2) Products must always be ordered in multiples of “6” (e.g., 12, 18, 24 etc.)
3) Start of delivery 2 months after start of delivery of standard device
4) Possible color variants on request, if the plastic frame is being dyed, UL/CSA certification must be verified on a case-by-case basis

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Customized design

More information

Costs/Discounts

Customized design devices are subject to a premium in addition to the standard device price.

One-off costs for design and implementation in the plant are added to the adapted unit price. The extent of these costs will vary depending on device and design.

Minimum quantities

In order to be able to offer high-quality products at prices that can compete on the global market, a minimum annual quantity and minimum order quantity must be specified.

A comprehensive presentation of all possible design devices appears in the overview tables, along with associated minimum quantities.

Processing

Orders for customized designs have to be processed in accordance with a specific procedure. Two customer approval stages are designed to ensure that the end product complies absolutely and fully with expectations.

Repairs/Stocking of spare parts

Only identified repairs are carried out.

On completion of delivery, the customized spare parts required (device fronts) must be stored and made available by the customer.

Contacts

Please contact your local/national Siemens HMI representative (visit our Internet site for more information).

Additional information can be found in the Internet under:
http://www.siemens.com/hmi-oem

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Overview

- The SIMATIC HMI OEM concept represents “customizing at its best”: Your requirements, based on sector and application know-how, combined with our experience in the development of HMI devices of all performance classes, result in tailor-made solutions at a fair price.
- OEM devices are available in all performance classes: from OEM Push Button Panels through Micro Panels, Panels and Multi Panels right up to Panel PCs – with far-reaching changes in hardware, equipment and software.
- The following modifications are possible:
  - changes to keyboard layout: Number of keys, key size/design and key layout
  - freely-definable front dimensions and device mechanics
  - a variety of processors for customized performance
  - a variety of memory media and capacities
  - number, size and layout of keys
  - display technologies, sizes and resolutions
  - options such as direct key modules
  - distributed configuration of Panel PCs: Up to 500 m
  - housings for desktop, stand or support-arm versions (operator station concept)
  - additional modules or interfaces, of course always complete with the necessary device drivers
  - selectable Windows operating systems
  - preinstalled SIMATIC software and customized software packages

Benefits

- Solutions for OEM customers suitable for complex industrial automation tasks that cannot be implemented using standard products.
- Customized OEM products are developed in defined stages in accordance with quality standards and produced using standard plant facilities - always in close cooperation with the customer.
- Users in the automotive industry and the food, beverages and tobacco industries, as well as in the plastics-processing industry are benefiting from our experience of delivering tried and tested OEM versions and industry standards.

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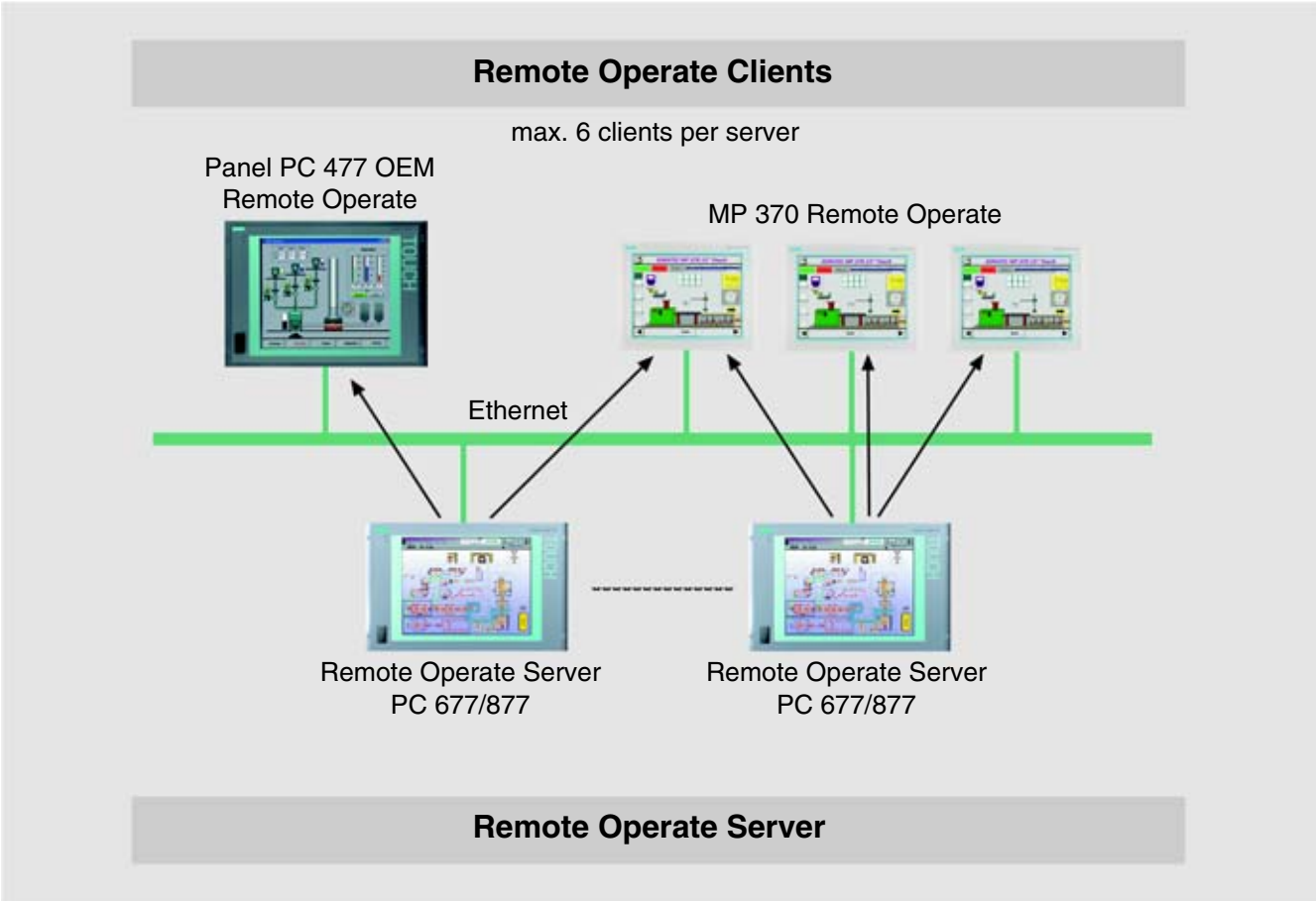
OEM products

Application

Multi-user system with Panel PCs for up to six operator stations based on Thin Clients with MP370 and PC477 OEM with Remote Operate

- With operational locking mechanism
- In a software application with identical screen content
- Same screen resolution
- Without server operating system



Panel PC connected to Thin Clients

More information

Product specification/Quotation preparation

- Product specification according to customer requirements
- Quotation preparation by SIMATIC HMI specialists, specification of
  - Non-recurring costs
  - Prototype costs
  - Standard unit prices
  - General conditions (product agreement)
- The following points are defined in the product agreement:
  - Delivery and pricing
  - Logistics - annual volume, purchase quantity, delivery volumes
  - Spare parts
  - Service

Note:
Customized products can only be ordered in conjunction with a product agreement.

Customized OEM products are developed and produced in various stages in accordance with quality standards. Prototypes are created to test products. Once a prototype has been approved by the customer, it undergoes certification and production can get underway.

Devices are produced using standard plant facilities, ensuring observation of customer quantity forecasts. For this purpose, individual quantity forecasts are exchanged with the customer.

In the event of questions and problems, customers can contact our worldwide 24-hour SIMATIC Customer Support. This is complemented by a special OEM After Sales Support service.

Contacts

Please contact your local/national Siemens HMI representative

Additional information can be found in the Internet under:
http://www.siemens.com/hmi-oem

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Customized product examples for various sectors

Overview

SIMATIC HMI products are fitted with additional features in order to facilitate optimum use in specific sectors of industry. Stainless steel front panels for the food, beverages and tobacco industry are one such example. With the exception of their front panels, the devices are identical to standard products in respect of function and technology.

We can offer products for the following sectors:

- Automotive industry – HMI for factory automation
- General machine construction
- Food, beverages and tobacco industries
- Chemical and pharmaceutical industries.

Customized products for various industries are developed and produced in association with a customized product agreement.

Examples:

- Application in automotive industry:
  - HMI operator stations
  - PP17-I PROFIsafe
  - Front panel 15" with function keys at side for Panel PC
- Application in machine construction, general:
  - Panel PC 477 OEM
  - Embedded Panel PC
  - TP 177 B color PN/DP portrait
  - Front panel Touch + Key for Panel PC
  - Flat Panels 6.4" and 10.4" with and without Touch
- Application in food and beverages industry, chemicals and pharmaceuticals:
  - Panels and Panel PCs with stainless steel front
  - Stainless steel operator stations
  - Flat Panel 15" Touch in stainless steel housing

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Customized product examples for the automotive industry

HMI operator stations

Overview

Operator PC unit operator panel + PLC, HMI operator control unit, operator terminal (OT)

The fully-fitted and wired turnkey solutions in a variety of designs are ideal for the requirements of the automotive industry.

Benefits

- Modern design combined with outstanding functionality
- Increased heat dissipation thanks to ribbed aluminum frame and backpanel heat sink
- Easy access to controls thanks to hinged front frame or hinged backpanel
- Modular system for precise customization and tailoring to Panel or Panel PC
- High-quality aluminum press-drawn section with clean surface finish
- Colors to complement design, also possible in customized RAL colors
- Rugged and maintenance-friendly device design
- Very high EMC
- Distributed configuration for large machines and distributed installations
- Optimized high-speed operator control thanks to:
  - Reduced number of control elements
  - Optimum control element layout
  - 24 V DC hardware direct keys or high-speed PROFIBUS communication for direct keys
- Use of high-capacity mass storage for large software applications
- Silicone-free device configuration
- Chemically-resistant surfaces (resistant to lubricants and fillers, oils, etc., in particular)
- Welding sputter-resistant surface
- Project-specific software ready installed

Application

In automotive production, the fault-free operation of production facilities is of paramount importance. The requirements of industrial control housings in respect of impermeability to dust and water, as well as those in respect of the management of the internal heat balance are therefore very high. In addition to the Panel PC 477 OEM and the Panel PC 677, the Panel PC 877 and Flat Panels are also suitable for use as operator PCs for the automotive industry.

Design

- The modular design with a variety of aluminum frames and expansions can support all required device combinations. A variety of operator stations appear in the overview:
  - Modular aluminum control housing system for the installation of an HMI Panel or Panel PC (see “Overview” figure on top right)
  - Modular aluminum control housing system for the combination of a number of HMI Panels (see “Overview” figure on bottom right)
  - Modular aluminum control housing system for the combination of a number of HMI Panels, Panel PCs and Simatic S7 PLCs (see “Overview” figure on left)
- Can be accessed via hinged front frame or hinged backpanel
- Integrated support arm elements at the top and bottom for the direct attachment of support arm couplings
- Integrated handle attachments facilitate handling and underline the design image

Certifications/Approvals

- IP65
- NEMA 4/EEMAC Type 12
- UL/CSA

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Technical specifications

Examples for application in the automotive industry

Type	HMI operator control unit	Operator PC unit operator panel + PLC
Components		
Computer unit	Panel PC 677 • Pentium M 1.6 GHz, 512 MB RAM • 40 GB HD, DVD/CD-RW • MPI/PROFIBUS + Ethernet interface 10/100 Mbit • Europe 230 V preinstalled	PC Box V3 based on Panel PC 677 • Pentium M 2 GHz, 1 GB RAM • 40 GB HD • MPI/PROFIBUS + 2 x Ethernet interface 10/100 Mbit • Europe 230 V preinstalled
Front panel	PC 677 15" Touch, 15" XGA 1024 x 768 resolution	customer-spec. front with 2 x 6 buttons, 15" XGA 1024 x 768 resolution
Other components		• PP17-I PROFIsafe • PP17-II • S7-400 configuration
Additional components		
Housing	CC-4000	• VIP 6000 (upper part) • IW 6900 (lower part)
Dimensions	578x764x183 mm	630 x 1870 x 636 mm
Operator panel	with insertable labeling strips	–
Keyboard	Cherry keyboard (optional)	Sasse stainless steel keyboard
Mouse	Track ball (optional)	Optical mouse
Elements	16 x 3SB3 elements, 1 x Emergency STOP	2 x 4 addit. elements, 1 x Emergency STOP
Locking	• E1 locking device for keyboard drawer and housing • E7 key-switch	customer-specific housing locking device
Installation	Installation in housing with electrical wiring	Installation in housing with electrical wiring
Ventilation	24 V fan without integral power unit	–
Terminals	3-conductor terminals	Wago terminals
Core-indentification	Yes	Yes
Base-plate profile	• 2 x M32 (1 x Murr, 1 x blanking plug) • RJ45 Ethernet interface • HAN 25, HAN 7	• Icotec • RJ45 Ethernet interface
Software:	• Win XP SP 1, Prof. Multilanguage • Win CC SP3 • SIMATIC Step 7 Prof ED 2004 • Norton Antivirus 2005 • Norton Ghost V 9.0	• Win 2003 Server • SIMATIC Softnet S7 for IE V 6.x • SIMATIC Step 7 V 5.x • SIMATIC S7-Graph V 5.x • SIMATIC DistributedSafety V 5.x • InTouch Runtime V 9.x

Type	Operator terminal (OT)
Components	• PP17-I Profisafe • PP17-II • TP 170B
Additional components	
Housing	VIP 6000
Dimensions	622 x 585.5 x 210 mm
Elements	• 16 short-stroke keys, 2 x 4 addit. elements, 1 x Emergency STOP • 32 short-stroke keys • 3 x SIMATIC DP cable connector
Locking	Customer-specific housing locking device
Installation	Installation in housing with electrical wiring
Core-identification	Yes

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Customized product examples for the automotive industry

HMI operator stations

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific order number is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:

http://www.siemens.com/automation/partner

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PP17 PROFIsafe

Overview

PP17-I PROFIsafe: Front and rear views

Pushbutton panel with 16 illuminated short-stroke keys and free digital inputs and outputs, supplemented by four fail-safe input channels (F-DI) for simple emergency stop applications.

Benefits

The control unit offers a wide range of features that can be used without the need for programming:

- Short-stroke keys with two-color flat surface LEDs
- Additional 24 V digital inputs and outputs (maximum of 14 can be used in standard mode)
- All short-stroke keys and digital inputs can also be individually configured as switches
- Integrated lamp test
- Integrated flash rate
- LED colors: red, green, yellow
- Configurable pulse stretching
- Pre-perforated cut-outs for 22.5 mm standard add-on components such as key switches and emergency stop
- SIMATIC control unit design, can be mounted side-by-side without gaps
- Fail-safe operation of between 1 and 4 emergency stop buttons by means of PROFIsafe communication
- Simultaneous standard mode and fail-safe mode
- Non-interchangeable coded plug-type terminals

Application

The pushbutton panel has been designed for use in the automotive industry.

Possible applications for the operator panel

The operator panel is used to display the operating states of machines or plants and to control the process. The operator panel is designed for mounting in control panels and replaces individually installed and wired keys, switches and LEDs. You should install the operator panel in an installation cutout and connect it to a PLC of type SIMATIC CPU 416F-2, CPU 315F-2 or CPU 317F-2 via PROFIBUS. The operator panel is pre-configured and is operational almost immediately. In comparison to conventional wiring, substantially less time is needed for commissioning and the device provides increased failure safety during runtime.

Use in fail-safe mode

Thanks to integrated PROFIsafe communication, the operator panel can be utilized in fail-safe mode in SIMATIC S7-416F-2, S7-315F-2 or S7-317F-2 modules for simple emergency stop applications. Up to four two-channel emergency stop buttons can be connected. Concerning safety-relevant signals, at least SIL2/Category 3 can be achieved. For applications requiring the higher SIL 3/Category 4, an additional FB “F_PP17I_SIL3” must be integrated into your STEP 7 safety program.

The fail-safe operator panel features a simple non-configurable diagnostics function. The diagnostics are always activated and are automatically made available by the HMI in STEP 7 and passed on to the CPU in the event of a fault.

The diagnostic function passes the following diagnostics information to the CPU:

- Communication error
  Communication between the operator panel as DP slave and the CPU as DP master has been interrupted (e.g., due to an incorrect PROFIBUS address or PROFIsafe address).
- Hardware error
  External wiring or internal hardware error, data corruption or procedural error.
- Parameterization error
  Error in the PROFIsafe configuration

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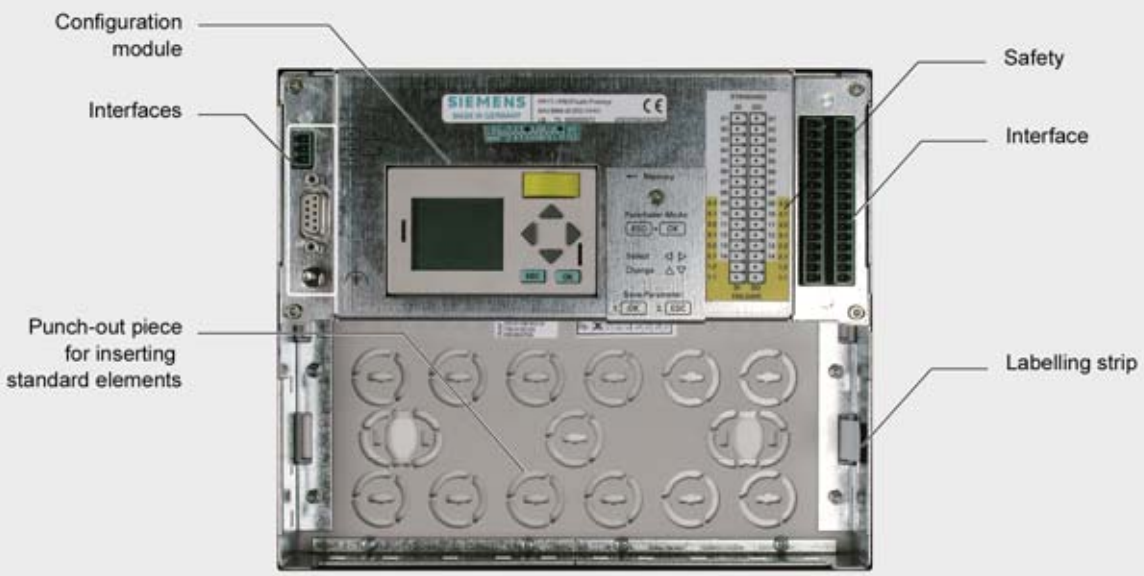
PP17 PROFIsafe

Design

External dimensions and mounting cutout are the same as those for the standard product PP17-I.



Technical specifications

Only technical specifications that differ from the data of PP17-I appear in the following list:

Type	PP17-I PROFIsafe
Number of F channels for Emergency STOP	1 to 4 max.
	Two digital inputs and two digital outputs required for each F channel
Additional digital inputs	14 max. (dependent on the number of emergency stops)
Additional digital outputs	14 max. (dependent on the number of emergency stops)
Output aggregate current	300 mA max.
Connection to controller	S7-416F-2, S7-315F-2 or S7-317F-2 No MPI communication
Requirements	SIMATIC S7 – Distributed Safety V5.3 or higher

Other technical specifications correspond to the specifications of the standard PP17-I.

More information

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

Ordering Data

	Order No.
SIMATIC PP17-I PROFIsafe A Pushbutton panel with PROFIsafe communication and max. 4 F-DI for emergency stop applications, incl. mounting accessories and 1 sheet of slide-in labels	**6AV3 688-4CX02-0AA0**
• Delivery time	Available ex stock
• Minimum order quantity	None; can be ordered individually
• Project quantities or ongoing supply	Orders as per customer forecast 1)
• Repairs	Handled by the Spare Parts Service
Documentation (to be ordered separately)	
PP17-I PROFIsafe User Manual incl. CD-ROM, with Word template for creating slide-in labels, with GSD file and F-FB for SIL3/Cat. 4	
• German	**6AV3 991-1XB01-0AA0**
• English	**6AV3 991-1XB01-0AB0**
PP17-I PROFIsafe Short Operating Instructions	
• German	**6AV3 678-8LA00-0AA0**
• English	**6AV3 678-8LA00-0AB0**
Accessories for supplementary ordering	
Set of slide-in labels	**6AV3 671-8CB00**

1) For ongoing supply or the delivery of larger quantities to OEM customers, product planning and production are based on customer forecasts.

A) Subject to export regulations: AL: N and ECCN: EAR99H

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Front panel with motion keys at side

Overview

Front panel 15" with motion keys at side for Panel PC in the automotive industry

Front panel with motion keys at side for Panel PC in the automotive industry

The front panel 15.1" with motion keys at side is designed as a front unit for Panel PC. The motion keys at the side allow intuitive and direct activation of movements in the plant. The display is a pure display unit, alphanumeric characters are entered using an external keyboard and external pointing device.

Benefits

- Display unit with additional function keys for efficient and direct activation of motions
- Display surface resistant to welding beads
- 24 V DC function keys for wiring to digital inputs of PLC
- Non-interchangeable terminals

Appication

The front panel for Panel PCs with function keys at the side is designed for HMI operations in the automotive industry, e.g. as a display for control computers.

The front unit as the display unit with function keys at the side is always used if comprehensive inputs are necessary using an external keyboard and pointing device, but where efficient control of movements should be additionally possible using the function keys assigned to the graphics and directly to the PLC.

Application example: Operations computer in the automotive industry

Design

- 2 x 6 function keys (24 V DC) on left and right of display
- Function keys connectable using non-interchangeable terminals, e.g. using vacant inputs of a pushbutton panel to the PLC
- Display surface resistant to welding beads
- USB interface at the front
- External dimensions and mounting cutout as for corresponding standard product
- Degree of protection IP65 at the front

Technical specifications

Type	Front panel 15" with motion keys
Display	15.1" TFT
Resolution (pixels)	1024 x 768 pixels
General features	As front panel 15.1" for Panel PC 677
Characteristics	
Interfaces	USB interface at the front
Connectable to Panel PC	PC 477, PC 677 compact and distributed design
Number of keys	2 x 6 function keys (24 V DC) on left and right of display, wired to terminals

Modification possibilities

- Customized design
- Modification of front design

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific order number is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

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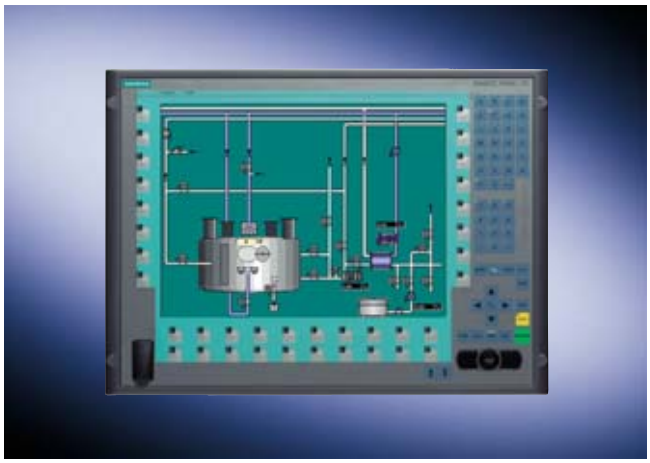
Customized product examples for general machine construction

Panel PC 477 OEM

Overview



Rugged and powerful systems are required in industrial applications. SIMATIC Panel PCs have been designed to a high standard, offering special resilience for use in industrial environments as well as strong performance capability. Where the solutions required for individual automation tasks cannot be implemented using standard products, custom made versions of these devices can be used. The SIMATIC Panel PC 477 is the ideal embedded solution for use in harsh industrial environments. This particularly compact and rugged Panel PC is ideal for use on machines and, due to its lack of fans and hard disk, it is completely maintenance-free.

- Combining particularly compact dimensions with high performance
- Maintenance-free in operation with CompactFlash due to absence of fans
- Ambient temperature up to 50 °C without fans
- High degree of ruggedness thanks to high resistance to shock and vibration
- Processors up to Intel Pentium III, 933 MHz
- RAM expandable up to 512 MB
- Compact Flash memory from 256 MB for maximum availability
- Ethernet and PROFIBUS (optional) on board
- Long-term availability of PC components from the Intel embedded range

Optional custom made expansions

- Hard disk with buffered suspension
- 2nd Compact Flash Card
- Combination of Compact Flash Card and hard disk in one device

Benefits

- Security against manipulation through customized Windows XP embedded
- Increased system availability (faster booting, write-protected system partition)
- Increased data security thanks to CompactFlash memory
- Without fans
- Hard disk for large data quantities or cyclic writing
- Combined hard disk + Compact Flash memory
- Retentive memory
- Compact or distributed configuration
- Worldwide service network
- Turnkey product, ready to use (pre-installed software, operator station)
- Customer support for producing user-specific Windows XP embedded images
- Free evaluation tool from Microsoft for the production of user-specific images

Application

Windows XP embedded or Windows XP Professional permit customers to select a standard operating system or to increase the security by using an embedded system. Combination with a Flash memory opens up new perspectives in practice. Operating system and applications on a protected Compact Flash card provide a secure and stable system with short boot times. The additional hard disk can save temporary data (data tracing, product tracing, temporary image files or plant statuses), or also memory-intensive databases, SQL servers. Even on failure of the hard disk, production can be continued if manual mode is provided.

The innovative WinCC flexible visualization software and automation software based on WinAC RTX are ideal for configuration. Individual hardware, software and design modifications and expansions for the PC477 are available on request.

Application examples

- Printing machines
- Pick-and-place machines
- Brake test stands
- Paint mixing plants
- Wind power plants
- Injection molding machines
- Information terminals
- Building management
- Storage systems
- Automatic baking machines

Technical specifications

General features	
Processor	Intel Celeron 650 MHz Intel Pentium III 933 MHz
Operating system	Microsoft Windows XP Professional Microsoft Windows XP embedded
Hard disk	40 GB shock and vibration damped
Vibration load during operation	10 to 58 Hz, 0.0375 mm 58 to 200 Hz: 4.9 m/s^2 (0.5 g)
Shock loading during operation	50 m/s^2 (5 g), 30 ms
Ambient temperature during operation	Display front: 40° C max. 5 - 45° C in full configuration 5 - 50° C max. one PC104 expansion without HD
Relative humidity during operation	95% relative humidity without hard disk; 80% relative humidity with hard disk; no condensation

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Selection and ordering data

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)
- Training in XP embedded generation

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

Options for Panel PC 477 OEM

Bulk storage

- Hard disk
- 256 MB, 512 MB, 1024 MB Compact Flash memory
- Combined hard disk and Flash memory

Operating system

- Windows XP Professional with hard disk only
- Windows XP embedded

HMI software

- SIMATIC WinCC flexible 2005 128 PowerTags (RT)
- SIMATIC WinCC flexible 2005 512 PowerTags (RT)
- SIMATIC WinCC flexible 2005 2048 PowerTags (RT)

Soft PLC software

- WinAC RTX 2005

Type of communication

- Via integrated interfaces
- Industrial communication modules

Preinstalled software

Customized SIMATIC Panel PCs can be provided with all software ready for use.

- TIA software packages included in one Order No. (package)
- SW image provided by customer installed prior to delivery [2) 4)]
- Siemens-specific SW image installed prior to delivery [1) 2) 3)]

1) Only available when ordered with a Panel PC
2) Only in conjunction with a product agreement
3) Take non-recurring costs into account for software image generation by Siemens
4) With integration of Siemens TIA software, a safe system is produced

The WinAC RTX 2005 and WinCC flexible 2005 TIA software products are tested with standard operating system images and released on a customer-specific basis. If changes are made to the operating system constellation (generation under Windows XP embedded), you will need to confirm the functionality of the TIA software by means of a system test.

Operator station

The devices can be supplied mounted in optimized operator stations.

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)
- Training in XP embedded generation

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

Non-recurring costs

- Customer training for Windows XPe and 5 h hotline support
- Creating a custom made image for Windows XPe, if applicable with WinCC flexible 2005 + WinAC RTX 2005
- Creating a custom made image for Windows XPe with customer applications

1) Only available when ordered with a Panel PC
2) Only in conjunction with a product agreement
3) Take non-recurring costs into account for software image generation by Siemens

A custom made order number is allocated during the product agreement process.

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Customized product examples for general machine construction

Panel PC 477 OEM

Ordering Data		Order No.
SIMATIC Panel PC 477 Customized version	D	**6AV7 44■-■■■■■-■■■■**
Fronts		
Basic unit:		
• 12" TFT Touch		**1**
• 12" TFT Key		**2**
• 15" TFT Touch		**3**
• 15" TFT Keys		**4**
Processor:		
• Celeron 650 MHz, 100 MHz FSB		**0**
• Celeron 650 MHz, 100 MHz FSB, PROFIBUS DP		**1**
• P III 933 MHz, 133 MHz FSB		**2**
• P III 933 MHz, 133 MHz FSB, PROFIBUS DP		**3**
First mass storage:		
• Without Compact Flash		**X**
• 256 MB Compact Flash industrial grade		**A**
• 512 MB Compact Flash industrial grade		**B**
• 1 GB Compact Flash industrial grade		**C**
Second mass storage:		
• Without second storage medium		**X**
• 2. Compact Flash slot (instead of HDD) 256 MB Compact Flash		**A**
• 2. Compact Flash slot (instead of HDD) 512 MB Compact Flash		**B**
• 2. Compact Flash slot (instead of HDD) 1 GB Compact Flash		**C**
• 40 GB HDD		**D**
Memory configuration:		
• Main memory 512 MB SDRAM		**1**
• Main memory 256 MB SDRAM		**2**
• Main memory 128 MB SDRAM		**3**
Operating system:		
• Without operating system		**0**
• Windows XP Professional preinstalled (on HDD)		**1**
• Windows XP embedded preinstalled (on HDD)		**2**
• Windows XP embedded preinstalled (on CF, min. 512 MB)		**3**
Power supply:		
• 24 V DC		**0**
• 110/220 V AC, power cable for Europe		**1**
Customer identifier		
Customer identifier		
Version identifier		**0**

D) Subject to export regulations: AL: N and ECCN: 5D992B1

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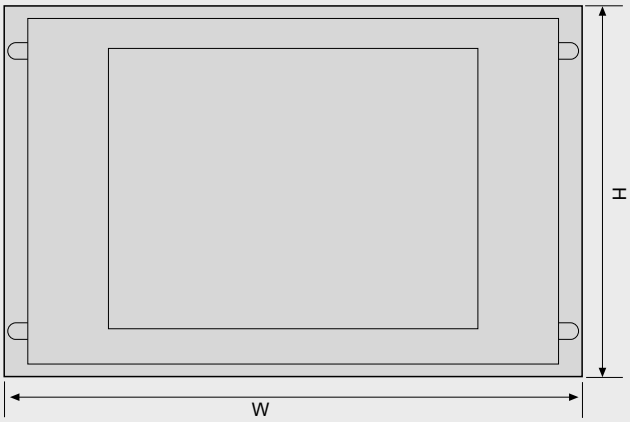
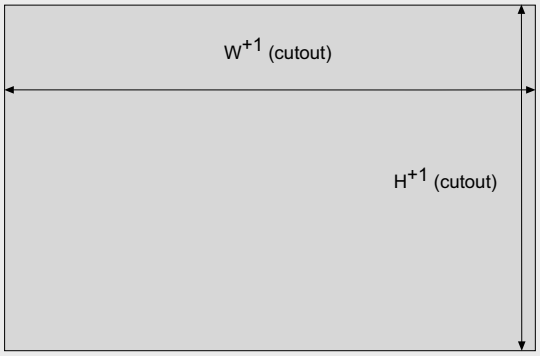
Dimension drawings

Dimensions in mm





Front dimensions

Touch panels	W	H
12"	400	310
15"	483	310
Key panels	**W**	**H**
12"	483	310
15"	483	355

Installation cutouts

Touch panels	W^{+1}	H^{+1}
12"	368	290
15"	450	290
Key panels	**W^{+1}**	**H^{+1}**
12"	450	290
15"	450	321*

* In addition: two 25 x 5 mm recesses on the top side for keyboard slide-in label channels

G_ST80_XX_00239

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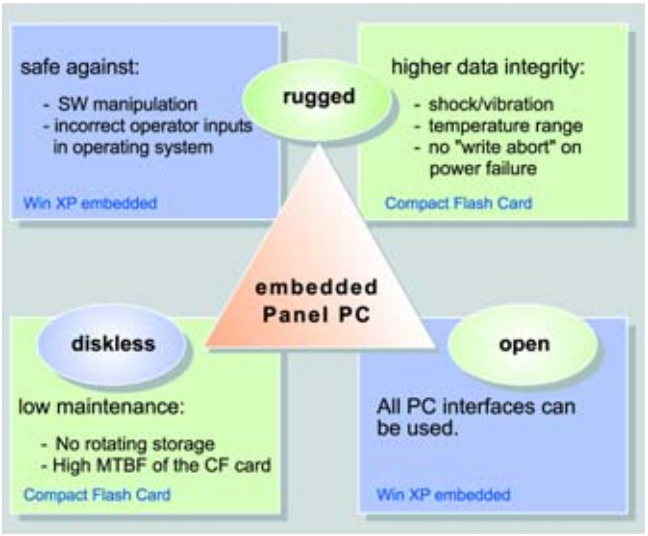
Embedded Panel PC

Overview

SIMATIC HMI embedded Panel PCs



Rugged and powerful systems are required in industrial applications. In this respect, SIMATIC Panel PCs offer a very high standard, featuring special resilience for industrial applications in addition to high performance capability.

Due to popularity and ease of use, these PC systems are usually supplied with Windows 2000 or Windows XP. Although highly reliable through regular updates, these operating systems need a hard disk as boot and working drive due to their performance range and wide application scope.

However, due to considerations in respect of durability, susceptibility to error or low heat dissipation, hard disk drives are not always the ideal basis for every application. Flash memory systems are often a better solution.

If you wish to use Flash memory, the standard operating systems (Windows 2000 or Windows XP) are not an option. However, if you need their flexibility or require applications only available for these operating systems, Windows XP embedded can provide the ideal solution.

Use of Windows XP embedded also provides the opportunity for increasing the security of the PC system. An industrial environment seldom requires all functionalities provided by a workstation operating system. Through its division into components, the Windows XP embedded operating system makes it possible to select the required functions and to exclude nonrequired ones. This provides security and an increased performance through minimization of the software used.

Unlike XP Professional, the embedded version is not installed on the target system. Instead an operating-system image is generated using the Microsoft Target Designer. We can provide components tailored precisely for SIMATIC Panel PC systems for this tool and offer our customers the option of either generating the operating system themselves or having us generate it in absolute accordance with their requirements.

Customized project-based configurations

Hardware basis: Panel PC 477 and Panel PC 677

Operator control units:

- Compact, remote
- Touch 12", 15", 19"
- Keys 10", 12", 15"

Mass storage:

- Compact Flash 256 MB – 2 GB hard disk of industry standard design
- Larger storage capacity on request
- Alternative:
  - Hard disk instead of Compact Flash with Windows XP embedded
  - 2nd Compact Flash Card
  - Compact Flash + hard disk

Operating system:

- Windows XP embedded

TIA integration:

- WinCC flexible 2005 as HMI software
- WinAC RTX 2005 as Soft PLC
- TIA software products are tested with standard images of the operating system and are released on a customer-specific basis. If the operating system constellation (generation) changes, the functionality of the TIA software has to be confirmed by means of a system test.

Software:

- Preinstalled, predefined Windows XP embedded
- Generation of a customized Windows XP embedded image on request
- SW installed prior to delivery (ready to run incl. customer applications)
- Provision of HW components for Microsoft development tools for easy creation of own operating system image

Training:

We offer Windows XP embedded training within the context of projects in order to support customers when using this operating system and to enable them to carry out their own plant-specific optimization.

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Benefits

- Increased protection against tampering
- Increased system availability (faster booting, write-protected system partition)
- Increased data security thanks to Compact Flash memory
- Full industrial compatibility
- Full scalability
- Without fans (Panel PC 477)
- Retentive memory (Panel PC 477)
- Compact or distributed configuration
- Worldwide service network
- Turnkey product, ready to use (pre-installed software, operator station)
- Customer support for producing user-specific Windows XP embedded images
- Free evaluation tool from Microsoft for the production of user-specific images

The use of Windows XP embedded in conjunction with SIMATIC Panel PCs provides an outstanding platform in respect of security, ruggedness and flexibility. It enables the flexibility of the PC world, combined with the security of an embedded system, to be used in industrial applications. The Windows XP embedded support package provides the basis for the effective and fast generation of a platform tailored to meet your requirements.
We gladly work together with you to generate and deliver the customized SIMATIC hardware and software combined to meet the requirements of your particular application. This can save you both time and money during the installation process, leaving you free to deal with more important issues.

Application

Embedded systems provide additional options wherever hard disks have reached the limit of their specification and potential weak points can be identified.

Example:

- **Directly at the machine in the production industry, in the mechanical engineering industry, for packaging machines, in sheet metal working, process engineering, or building systems**
  In such applications, MTBF can be affected significantly by machine vibrations and ambient temperatures.Flash memory can be used for higher temperatures and can withstand an increase of up to 10 times in respect of vibration.
- **On support-arm systems/cabinet doors**
  This is a very popular operator system configuration. If, however, the swing range of the support arm or cabinet door is not limited by soft end stops, harsh impact can generate shock loads which can damage the hard disk in the long term. Flash memories do not have bearings or moving reader heads which can damage magnetic memory media. The shock resistance of Compact Flash memory is more than 100 times that of hard disks.
- **As information terminals in public places**
  The modular structure of Windows XP embedded enables specific functions to be masked out. This reduces system resource usage and increases operational reliability by excluding the possibility of operator errors and tampering.
- **A space-saving, high-performance, single-platform solution for control and visualization tasks**
  Smaller systems have the option of implementing the visualization and control tasks compactly in a single device, without an additional control cabinet.

Design

- HW base as Panel PC 477 and Panel PC 677
- Optional:
  - combined hard disk and Compact Flash memory
  - compact or distributed design
  - installation in operator stations

Technical specifications

All technical features of the Panel PC 477 and Panel PC 677 have been retained for the embedded versions and further information can be obtained by referring to the corresponding product information.

Deviations:

- When using Windows XP embedded:
  Depending on the generation of the image, functionality may be restricted in comparison with Windows XPpro.
- When using a CompactFlash Card:
  Write and read data transfer rates are slower than with a hard disk

Versions

Microsoft Windows XP embedded is the standard operating system when using a SIMATIC Panel PC 677 embedded. Delivery of hardware without an operating system is possible, and supports customer flexibility for use of other embedded operating systems.

To facilitate the creation of images, the components for the hardware description of the Panel PCs for the Microsoft Target Designer can be passed on to customers.

The operating system image can be generated by the customer or by Siemens. Once generated, the image can be installed prior to delivery of every hardware order placed if requested by the customer.

The WinCC flexible and WinAC TIA software packages complete the embedded spectrum for the PC 677. If Siemens generates the application images, both software products are subject to a renewed customer-specific system test. This serves to protect the functionality of this software under changed conditions of an embedded operating system, and increases the reliability of the customized Siemens products.

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Embedded Panel PC

Selection and ordering data

Selection guide/Quotation preparation

SIMATIC Embedded Panel PCs are modified on the basis of the PC 477 / PC 677 hardware, or possible modifications are outlined below.

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)
- Training in XP embedded generation

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

Options for OEM embedded Panel PCs

Mass storage

- Hard disk
- 1st CompactFlash memory: 256 MB to 2048 MB (industry-standard)
- 2nd CompactFlash memory: 256 MB to 2048 MB (industry-standard)
- Combined hard disk and Flash memory
- Larger storage capacity on request

Operating system

- Without operating system
- Windows XP embedded

HMI software

- SIMATIC WinCC flexible 2004 128 PowerTags (RT)
- SIMATIC WinCC flexible 2004 512 PowerTags (RT)
- SIMATIC WinCC flexible 2004 1024 PowerTags (RT)

Soft PLC software

- WinAC RTX 2005

Type of communication

- Via integrated interfaces
- Industrial communication modules

Preinstalled software

Customized SIMATIC Panel PCs can be provided with all software ready for use.

- TIA software packages included in one Order No. (package)
- SW image provided by customer installed prior to delivery [2) 4)]
- Siemens-specific SW image installed prior to delivery [1) 2) 3)]

Non-recurring costs

- Customer training for Windows XPe and 5 hours of hotline support
- Creating a customized image for Windows XPe, if applicable with WinCC flexible 2005 + WinAC RTX 2005
- Creating a customized image for Windows XPe with customer applications

1) Only available when ordered with a Panel PC
2) Only in conjunction with a product agreement
3) Take non-recurring costs into account for software image generation by Siemens
4) With integration of Siemens TIA software, a system acceptance test is carried out

A customer-specific order number is allocated during the product agreement process. This results in product-specific exclusiveness which only allows this customer to purchase this device.

More information

Additional information can be found in the Internet under:
http://www.siemens.com/hmi-oem

Contact:

Please contact your local/national Siemens HMI representative.

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TP 177 B color PN/DP portrait format

Overview

Use of the panels in portrait format is required wherever mounting space is limited. The TP 177 B color PN/DP in portrait format extends the range of standard panels in customized projects.

Benefits

- Upright installation in case of limited space on machine
- Portrait format of screen contents
- Adapted Engineering System: “What you see is what you get”.
- Proven functionality of the SIMATIC HMI standard products

Application

The TP 177 B color PN/DP is designed for upright installation with display of the screen contents in portrait format. The device is suitable for installation in machines where only limited space is available, e.g. packaging machines, automatic baking machines etc.

Design

- The device design corresponds to that of the standard product on which it is based
- External dimensions and mounting cutout as for corresponding standard product
- Angled adapter required for communication:
- RS422/RS485 angled adapter

Technical specificat

- Ambient temperature during operation: Max. 50 degrees Celsius (vertical position)
- Mounting space in addition to panel cutout
  + 50 mm below and above the device
  + 15 mm on left and right
  + 10 mm behind the device

The remaining technical specifications correspond to those of the associated standard device TP 177 B color PN/DP.

Modification possibilities

- Customized design
- Resistant and rugged stainless steel front with finely ground surface for simple cleaning
- Customer-specific applications for Windows CE-based panels (Open Platform Program)

Ordering Data

	Order No.
TP 177B color PN/DP portrait format	**6AV6 642-7BA11-0AA0**
otherwise as 6AV6 642-0BA01-1AX0	
• Delivery time	Ex-stock in agreement with customer planning
• Minimum order quantity	50 units per year
• Spare parts and repairs	Identified repair

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Order No. is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

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Customized product examples for general machine construction

Front panel 15" Touch and Key for Panel PC, resistant to honing oil

Overview

The Front Panel Touch and Key is designed as a front unit for Panel PC. The combination of Touch and Key operation as well as the resistance to honing oil are characteristics of this product.

Complete lamination of the decoration foil over the touch area of the display increases the resistance against contamination and welding beads, and the absence of edges and joints facilitates cleaning. Openings and cutouts in the front have been completely omitted in favor of a homogenous surface which can also be used in the environment of honing oil and similar cooling agents and lubricants.

Clear operation is achieved using the Touch pen which is delivered as standard and can be stored in a front holder. Dirty or oily hands are therefore not an argument against using a Touch screen. The pen has an ergonomic shape, is optimized for operations when wearing gloves, and is linked to the front using an elastic helix cable. Its “parking position” in the special stainless steel holder on the front means that it is always readily accessible.

Benefits

- Combined Touch + Key operation for increased inefficiency
- Touch pen operation avoids contamination of display area
- Ergonomically shaped touch pen which cannot be lost
- Simple cleaning
- Resistant to coolants and lubricants

Application

The front panel for Panel PCs with touch screen and membrane keyboard has been designed for operator control and monitoring at machine level for machine construction applications, where honing oil and lubricants are used.

The touch and key front is always used if efficient operation of the machine is associated with the following requirements:

- Intuitive operation using graphic representation on display
- Specific command inputs using fixed command inputs
- Effective inputs in forms using the integrated numeric and alphanumeric keyboard

Also in applications with increased environmental influences such as dirt and oil. The homogenous foil surface without joints or edges permits easy cleaning, and is resistant to coolants and lubricants.

Application examples

- Printing machinery
- Drilling, milling, honing machines
- Brake test stands
- Injection molding machines
- Building management
- Warehouse systems
- Automotive industry

Design

- External dimensions and mounting cutout as for corresponding standard product
- Degree of protection IP65 at front

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Front panel 15" Touch and Key for Panel PC, resistant to honing oil

Technical specifications

Type	**15" touch + keys front panel, resistant to honing oil**
Display	15.1" TFT Touch
Resolution	1024 x 768 pixels
General features	as 15.1" Touch front panel for Panel PC 677
Special features	
Interface	Without USB interface on front
Connection to Panel PC	PC 477, PC 677 compact and distributed configuration
Number of keys	58 system keys and alphanumeric keys; 20 function keys with LED
Resistance	Tested with: Honing oil Castrol Honilo 981

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Order No. is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

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Flat Panels 6.4" and 10.4" for Panel PC

Overview

The Flat Panel 6.4" TFT Touch and Flat Panel 10.4" TFT Touch are designed as display and control units for Panel PCs. The products round off the spectrum of standard flat panels at the lower end for customized projects for smaller display sizes with VGA/SVGA resolution.

Benefits

- Compact Flat Panels for small mounting spaces
- VGA/SVGA resolution e.g. also as secondary display for Panel PC 677
- Functions compatible with the SIMATIC HMI standard Flat Panels

Application

The Flat Panels for Panel PCs without touch screen are designed for operation and monitoring at machine level in machine construction applications where PC functions are required but only a small mounting space is available for the display.

Design

- Functions compatible with the SIMATIC HMI standard Flat Panels
- Versions with and without touch operation

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Technical specifications

Flat Panel	6.4"	10.4"
Display	6.4" TFT with/without Touch	10.4" TFT with/without Touch
Resolution	640 x 480 pixels (VGA)	800 x 600 pixels (SVGA)
General features	as other SIMATIC HMI Flat Panels	as other SIMATIC HMI Flat Panels
Special features		
Power supply	24 V DC	24 V DC
Mounting dimensions	same dimens. as TP 277- 6", Front W x H (212 x 156) mm, Mounting cutout W x H x D (198 x 142 x 59) mm	same dimens. as MP 277-10" Touch, Front W x H (335 x 275) mm, Mounting cutout W x H x D (282 x 178 x 59) mm
Connection to SIMATIC PC	Panel PC 677, SIMATIC Box and Rack PC	Panel PC 677, SIMATIC Box and Rack PC

Modification possibilities

- Customized design
- Modification of front design, e. g. stainless steel front

Ordering Data

		Order No.
Flat Panel 6.4" TFT	A	**6AV7 461-6AA00-0AA0**
Otherwise corresponding to FP 77-12 to FP 77-19		
• Delivery time		Ex-stock in agreement with customer planning
• Minimum order quantity		30 units per year
• Spare parts and repairs		Identified repair
Flat Panel 6.4" TFT Touch	A	**6AV7 461-6TA00-0AA0**
Otherwise corresponding to FP 77-12 to FP 77-19		
• Delivery time		Ex-stock in agreement with customer planning
• Minimum order quantity		30 units per year
• Spare parts and repairs		Identified repair
Flat Panel 10.4" TFT	A	**6AV7 461-7AA00-0AA0**
Otherwise corresponding to FP 77-12 to FP 77-19		
• Delivery time		Ex-stock in agreement with customer planning
• Minimum order quantity		30 units per year
• Spare parts and repairs		Identified repair
Flat Panel 10.4" TFT Touch	A	**6AV7 461-7TA00-0AA0**
Otherwise corresponding to FP 77-12 to FP 77-19		
• Delivery time		Ex-stock in agreement with customer planning
• Minimum order quantity		30 units per year
• Spare parts and repairs		Identified repair

A) Subject to export regulations: AL: N and ECCN: EAR99H

A product agreement with minimum quantities is required for the development and supply of customized products.

Please contact your local/national Siemens HMI representative.

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity which must be agreed upon with the customer in the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Order No. is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

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Customized product examples for food, beverages and tobacco industries

Panels and Panel PCs with stainless steel fronts

Overview

The following SIMATIC HMI Panels and Panel PCs with stainless steel fronts are available as standard products:

- TP 177 B color PN/DP INOX
- MP 277 10" Touch INOX
- MP 370 15" Touch INOX
- Panel PC 677 15" Touch INOX

The SIMATIC Panels with touch screens and stainless steel fronts have been designed for use in the food, beverages and tobacco industry for operator control and monitoring close to food processing machines. They have been developed in compliance with DIN EN 1672-2 “Food processing machines – Safety and Hygiene Requirements”.

- Simple cleaning and disinfecting
  - stainless steel surface with 240 grade hairline finish
  - foil tested for resistance to chemicals
  - minimal number of grooves and joints
  - optimized frame profile, so that liquids can run off
- Splash protection for the display
- Degree of protection IP66 (partly IP66K)

Benefits

- Resistant and rugged stainless steel fronts with finely ground surface for simple cleaning
- Optimized frame design with a slight projection to the cabinet and so that liquids can run off
- Minimal number of grooves and joints for increased resistance to cleaning and disinfection agents
- Non-migrating, food-standard sealing material (flat seals to FDA 21 CFR 177.2006) and display splash protection to avoid contamination by foodstuffs
- The device front is based on DIN EN 1672-2
- Decorative film tested against chemicals according to DIN 42115, Part 2
- Proven functionality of the SIMATIC HMI standard products

Application

Panels and Panel PCs with touch screen and stainless steel front are designed for use in the food, beverages and tobacco industry for operation and monitoring at the food processing machinery.

Design

- External dimensions and mounting cutout as for corresponding standard product
- Optimized frame profile with a slight projection to the cabinet
- Degree of protection IP66 at front (partly IP66K)
- Surface ground with 240 grain abrasive
- Minimal number of grooves and joints
- Decorative film tested for resistance to chemicals
- Display splash protection
- Food-standard seals
- Rear tensioning frame for even application pressure of the seal

Technical specifications

The technical specifications can be obtained from the sections on Panels and Panel PCs.

Selection and ordering data

The ordering data of the SIMATIC HMI standard products with stainless steel front can be obtained from the corresponding sections on Panels and Panel PCs.

Modification possibilities

- Customized design
  - use of the company name instead of the Siemens logo and modification of the type designation
  - changing the background color
- Panel PC with distributed design
- Customer-specific hardware modifications such as the design and dimensions of the front plate, selection of the display, drives, options
- Customer-specific Panel PC configuration as a rugged embedded hardware and software system, without hard disk and with tailor-made software
- Customer-specific software suite with choice of Windows operating systems
- Customer-specific applications for Windows CE-based panels (Open Platform Program)
- Device mounted in a stainless steel cabinet as a ready-to-install and ready-to-connect terminal which is ergonomic, functional, with high degree of protection as well as tested heat dissipation (e.g. with complete degree of protection IP66)

A product agreement with minimum quantities is required for the implementation of customized modifications.

Please contact your local/national Siemens HMI representative.

More information

Explanations

- EN 1672-2, edition: 2003-04 (draft standard), Food Production Machinery – General Design Guidelines – Part 2: Hygiene Requirements; German edition EN 1672-2: 2003
- DIN 10516, edition: 2002-01, Food Hygiene – Cleaning and Disinfection
- LMHV – German regulation on food hygiene
- FDA – Food and Drug Administration

SIMATIC partners close to you

Additional information can be found in the Internet under:
http://www.siemens.com/automation/partner

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Customized product examples for food, beverages and tobacco industries

Stainless steel HMI terminals

Overview

Stainless steel terminal for stand mounting,
here with MP 370 15" Touch INOX

SIMATIC HMI Panel or Panel PC mounted in a stainless steel cabinet as a ready-to-install and ready-to-use terminal which is ergonomic, functional and with high degree of protection (e.g. up to complete degree of protection IP66K) as well as tested heat dissipation

The equipped and wired turnkey solutions are based on the hygienic design requirements of the food and beverages industry as well as other hygiene and wet areas, pharmaceuticals and fine chemicals.

Benefits

- Simpler cleaning thanks to resistant and rugged stainless steel front with smooth surface with fewer grooves and gaps
- High complete degree of protection IP66 (or IP66K) for increased tightness and ruggedness
- Gaskets appropriate for food applications (approved flat gaskets according to FDA 21 CFR 177.2006 and KTW)
- Display splinter protection to avoid contamination of food
- Optimized frame design of panels with a slight projection to the cabinet and so that liquids can run off
- Developed based on DIN EN 1672-2
- Decoration foil of panels tested for resistance to chemicals according to DIN 42115, Part 2. The foil material is resistant to the usual detergents and disinfectants of correct concentration.

Application

SIMATIC HMI customized stainless steel terminals are suitable for use in moist environments with hygiene conditions. Hygienic design also covers simple cleaning and avoidance of product contamination (food, medicines etc.).

Design

Design of stainless steel terminal

- For Panels and Panel PC
- Angular surfaces so that liquids can run off
- Prepared for stand mounting
- With integrated handles at sides

High complete degree of protection

- Screwed-on rear panel
- Cable inlet through stand and flange

Simple to clean

- No sharp corners or edges
- Hairline finish of surface with 240 grade grain

Control box completely assembled, wired, tested, with passive cooling

Certifications/Approvals

- IP66 or IP66K, NEMA 4, 4x, 12
- CE, cULus
- Hygiene design available soon

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Customized product examples for food, beverages and tobacco industries

Stainless steel HMI terminals

Technical specifications

The following data are examples of the size of the stainless steel housing when using touch displays of customized Panels and Panel PCs with stainless steel front (compact and with distributed design).

Panel/Panel PC	MP 277 10" Touch INOX	MP 370 15" Touch INOX	Panel PC 677 15" Touch INOX distributed configuration	Panel PC 677 15" Touch INOX compact configuration
Display size	10.4"	15"	15"	15"
Stainless steel housing				
Width (mm)	575	720	720	720
Height (mm)	444	524	524	524
Depth (mm)	123	123	123	163
Connection (GTH)	48	48	48	60

With specified ambient temperature during operation depending on customized requirements.

Modification possibilities

- Other HMI devices, display sizes and resolutions
- External stainless steel keyboard
- Front/enclosure design and cable routing (without hygienic design)
- Specified flanges of enclosure manufacturers

A product agreement with minimum quantities is required for the development and supply of customized products.

Please contact your local/national Siemens HMI representative.

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity which must be agreed upon with the customer in the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Order No. is allocated during the product agreement process.

SIMATIC partners close to you

Additional information can be found in the Internet under:

http://www.siemens.com/automation/partner

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Customized product examples for food, beverages and tobacco industries

Flat Panel 15.1" for pharmaceutical industry

Overview

The Flat Panel 15.1" TFT Touch is designed as a display and control unit for SIMATIC PCs in the pharmaceutical and associated industries. The Flat Panel is simple to clean and can be directly mounted on the control cabinet or in the plant without a support arm construction.

Benefits

- Flat Panel ready for connection and installation, in flat stainless steel enclosure
- Simpler cleaning thanks to resistant and rugged stainless steel enclosure with smooth surface with fewer grooves and gaps
- Optimized enclosure design with rounded top and bottom edges for automatic running-off of liquids
- Direct control cabinet attachment, without support arm construction
- Fatigue-free operation resulting from tilting of panel by +/- 20° from the vertical in association with the wide reading angle of up to 170° horizontally and vertically
- Complete decoration foil provides additional protection against display splinter
- High complete degree of protection IP65 for increased sealing and ruggedness, resistant to dust and moisture as well as standard detergent and disinfectant.
- Application e.g. also as secondary display for Panel PC 677
- Functions compatible with the SIMATIC HMI standard Flat Panels

Application

The Flat Panels for Panel PCs with touch screen are designed for operator control and monitoring at machine level in the pharmaceutical and associated industries where PC functions are required but have to be positioned remote from the PC because of the available space and the hygiene requirements.

Design

- Functions compatible with the SIMATIC HMI standard Flat Panels
- EPDM enclosure gasket, sulfur-free
- Decoratione foil laminated over display, no display cutout
- Stainless steel surface with 240 grade grain hairline finish
- Mounting system sealed by bellows

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Customized product examples for food, beverages and tobacco industries

Flat Panel 15.1" for pharmaceutical industry

Technical specifications

Flat Panel	**15.1"**
Display	15.1" TFT with Touch
Resolution	1280 x 1024 pixels (XGA)
General features	same as other SIMATIC HMI Flat Panels
Special features	
Connecting cables	1.8 m
Power supply	230 V AC
Degree of protection	IP 65, NEMA 4
OSD – on screen display	not during operation
External dimensions (Panel without fixing material/ retaining device)	W × H × D in mm 383 × 324 × 72
Connection to SIMATIC PC	PC 677, other SIMATIC Box and Rack PC

Modification possibilities

- Customized design
- Front/enclosure system and cable routing
- Other display sizes and resolutions
- 230 V AC power supply
- VESA connection 75 or 100 mm

or specified flanges of enclosure manufacturers

- High degree of protection IP66 or IP66K
- Installation is possible up to 5 m from computer unit

Ordering Data

	Order No.
Flat Panel 15.1" TFT Touch	Customized
Otherwise corresponding to FP 77-12 to FP 77-19	
• Delivery time	Ex-stock / ex-factory in agreement with customer planning
• Minimum order quantity	20 units per year
• Spare parts and repairs	Identified repair

A product agreement with minimum quantities is required for the development and supply of customized products.

Please contact your local/national Siemens HMI representative.

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity which must be agreed upon with the customer in the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Order No. is allocated during the product agreement process.

SIMATIC partners close to you

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Industrial LCD Monitors

7/2 **SCD Monitors**
7/2 19" devices

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19" devices

Overview

- The SCD 1997 and SCD 19101-D monitors are LCD monitors in rugged, industrial design
- They can be used in any application in which CRT monitors are used.
- Installation types:
  - desktop models
  - rack-mounting units (for switchgear cabinets, control desks and gantries)
  - 19" rack-mounting units (for 19" racks)
- Possible operation:
  - simple display devices
  - panels with touch operator control

Benefits

- Rugged industrial-type:
  - Fail-safe and long life thanks to high vibration and impact strength as well as extremely high electromagnetic compatibility
  - Casing front to degree of protection IP65 (IP20 for desktop unit), resistant to dust and humidity
  - Glass pane providing excellent mechanical protection against pressure and scratching
  - Complies with the "Industry" CE standard
- Wide range of versions
- No X-ray emission
- Low power consumption
- Less tiring to work with:
  - Wide reading angles of up to 170° horizontally and vertically
  - Clearly focussed, high-contrast image display
  - No flicker, uniform brightness
  - Automatic picture adjustment (Auto Adjust)
- Configuration using On Screen Display (OSD)
- Low space requirements and low weight
- Long service life

Application

The SCD 1997 and SCD 19101-D LCD monitors are used in applications in which the control/display panel has to be installed at a distance from the computer unit for technical or economical reasons.

Design

- Rugged aluminum housing
- 19" TFT display
- Resolution 1280 x 1024 pixels, 16 million colors
- Anti-reflex and hardened mineral glass screen
- Simple display or touch screen
- Line frequency 30 to 100 kHz
- Image refresh rate 50 to 97 Hz
- Power supply 100 to 240 V AC
- Installation is possible up to 20 m from computer unit

The industrial LCD monitors are available in three versions:

- 19" desktop units
  - SCD 19101-D – simple display unit
  - SCD 19101-DT with analog-resistive touch screen (USB)
- Rack-mounting units
  (for switchgear cabinets, control desks and gantries)
  - SCD 1997-D – simple display unit
  - SCD 1997-DT with analog-resistive touch screen (serial)
- 19" rack-mounting units
  (for 19" racks)
  - SCD 1997-R – simple display unit
  - SCD 1997-RT with analog-resistive touch screen (serial)

Included in delivery are:

- Power supply cable for versions with AC power supply unit
- Connecting leads 1.8 m, 5 m, 10 m or 20 m
- Operating instructions, 2 languages (German and English)
- CD-ROM with touch drivers

Special features for switch-over from CRT monitors on LCD monitors

- Screen diagonals:
  The following rule of thumb applies for LCD monitors: "Display size in inches plus 2" corresponds to the comparable monitor size based on CRT technology.
- Resolution:
  When the corresponding LCD monitor is selected, it must be ensured that the resolution of the LCD monitor is suitable for the visualization application.

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Technical specifications

Type	SCD 1997-E / 1997-ET	SCD 1997-R / 1997-RT	SCD 19101-D/DT
General features			
• Distance to computer	1.8 to 20 m	1.8 to 20 m	1.8 to 20 m
• On Screen Display (OSD) configuration	Yes	Yes	Yes
• Anti-reflex hardened mineral glass screen	Yes	Yes	Yes
• Display	1:1, full-frame display, zoom	1:1, full-frame display, zoom	1:1, full-frame display, zoom
• Power switch	rear	rear	rear
• Power supply	110/230 V AC	110/230 V AC	110/230 V AC
• Frequency/Power consumption	47-63 Hz / 60 VA	47-63 Hz / 60 VA	47-63 Hz / 60 VA
Ambient conditions			
• Degree of prot. acc. to EN 60 529	IP65	IP54	IP20
• Vibration load during operation	1 g (10 m/s^2)	1 g (10 m/s^2)	1 g (10 m/s^2)
• Shock load during operation	5 g (50 m/s^2)	5 g (50 m/s^2)	5 g (50 m/s^2)
• EMC	CE	CE	CE
• Temperature during operation	0 to +40 °C	0 to +40 °C	0 to +40 °C
Certification	UL, CE	UL, CE	UL, CE
Display			
• Screen diagonal in inches	19" TFT	19" TFT	19" TFT
• Optimum resolution (pixels)	1280 x 1024	1280 x 1024	1280 x 1024
• Brightness/contrast (typ.)	270-cd/m^2 / 400:1	270-cd/m^2 / 400:1	270-cd/m^2 / 400:1
• Viewing angle (H x V)	170° x 170°	170° x 170°	170° x 170°
• Shadow mask (H x V) (mm)	0.28 x 0.28	0.28 x 0.28	0.28 x 0.28
• Visible screen (H x V) (mm)	359 x 287	359 x 287	359 x 287
• Colors	16 Mio	16 Mio	16 Mio
• MTBF background lighting (at 25 °C)	50,000 h	50,000 h	50,000 h
• Image refresh frequency	30-100 Hz	30 100 Hz	30-100 Hz
• Line frequency	50-97 kHz	50 97 kHz	50-97 kHz
Operating elements			
• Membrane keyboard & Piezo mouse	No	No	No
• Function keys	No	No	No
• Alphanumeric and numeric block	No	No	No
• Touch screen	Optional	Optional	Optional
Interface			
• Standard VGA interface 15-pin SUB-D	Yes	Yes	Yes
• Digital DVI-D interface	No	No	Yes
• Interface for touch screen	Optional/serial	Optional/serial	Optional/USB
• 2 PS/2 interfaces for keyboard & mouse	No	No	No
• External dimensions W x H x D (mm)	481 x 385 x 89	483 x 400 x 89	465 x 444 x 91 (base depth 240)
• Installation cutout/depth W x H x D (mm)	450 x 353.4 x 89	-	465 x 444 x 91 (base depth 240)
Weight (kg)	10	10	7

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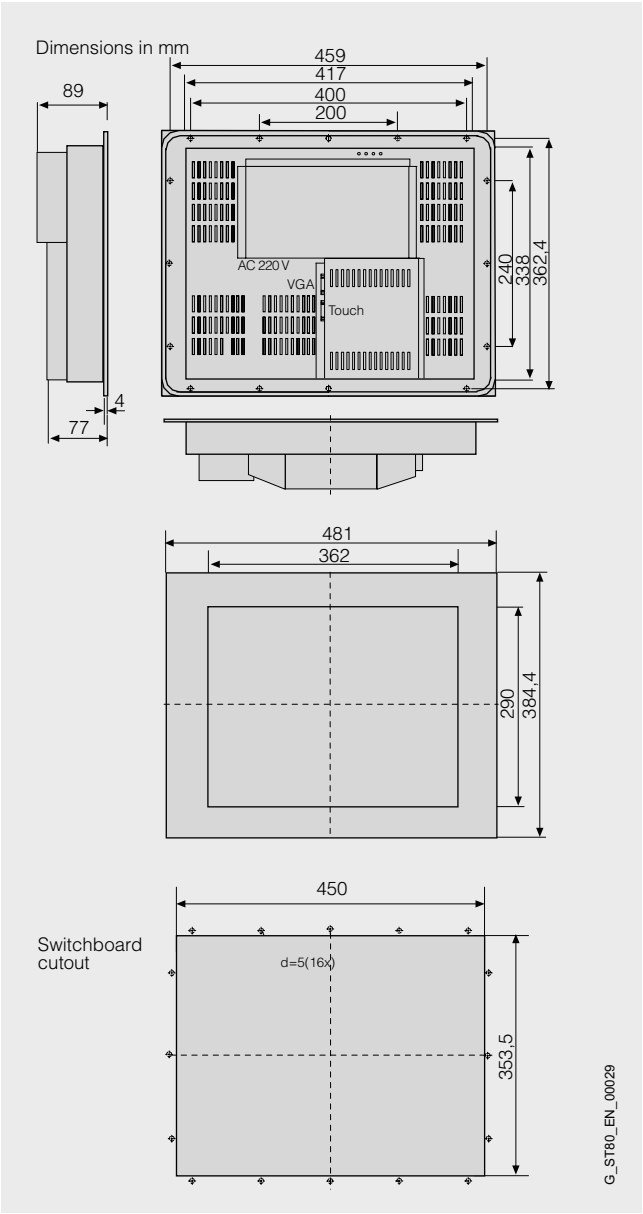
19" devices

Ordering data

		Order No.
Standard configuration		
19" LCD monitor		**6AV8 101-3■■00-0■A0**
Built-in version:		
• Built-in unit 1997		**B**
• 19“ rack unit 1997		**C**
Operator functionality:		
• Display devices without operator functionality		**A**
• Touch		**B**
Connecting cable:		
• Video + Touch		
- 1.8 m		**B**
- 5 m		**D**
- 10 m		**F**
- 20 m		**H**
• Video (not for Touch operator functionality)		
- 20 m		**J**
Accessories		
Connecting cable		
• Video + Touch		
- 1.8 m		**6AV8 107-0BA00-0AA0**
- 5 m		**6AV8 107-0DA00-0AA0**
- 10 m		**6AV8 107-0FA00-0AA0**
- 20 m		**6AV8 107-0HA00-0AA0**
• Video		
- 20 m		**6AV8 107-0HB00-0AA0**
• Video + 2 x PS/2		
- 1.8 m		**6AV8 107-0BC00-0AA0**
- 5 m		**6AV8 107-0DC00-0AA0**
• Video + X27		
- 10 m		**6AV8 107-0FC00-0AA0**
- 20 m		**6AV8 107-0HC00-0AA0**
Desktop models		
19" LCD monitor		
SCD 19101-D, desktop unit (identical construction to SCD 1898-I)	A	**6GF6 220-1DA01**
19" Touch LCD monitor		
SCD 19101-DT, desktop unit (successor to SCD 1898-IT, identical construction, but with USB Touch)	A	**6GF6 220-1DB01**

A) Subject to export regulations: AL: N and ECCN: EAR99H

Dimension drawings



SCD 1997-E/ET

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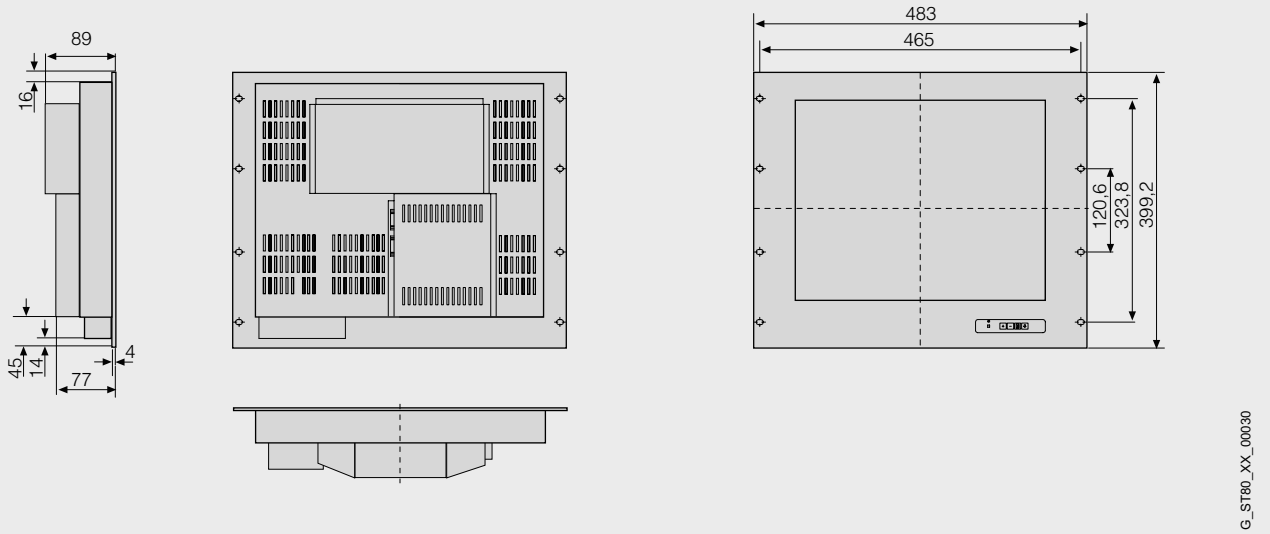
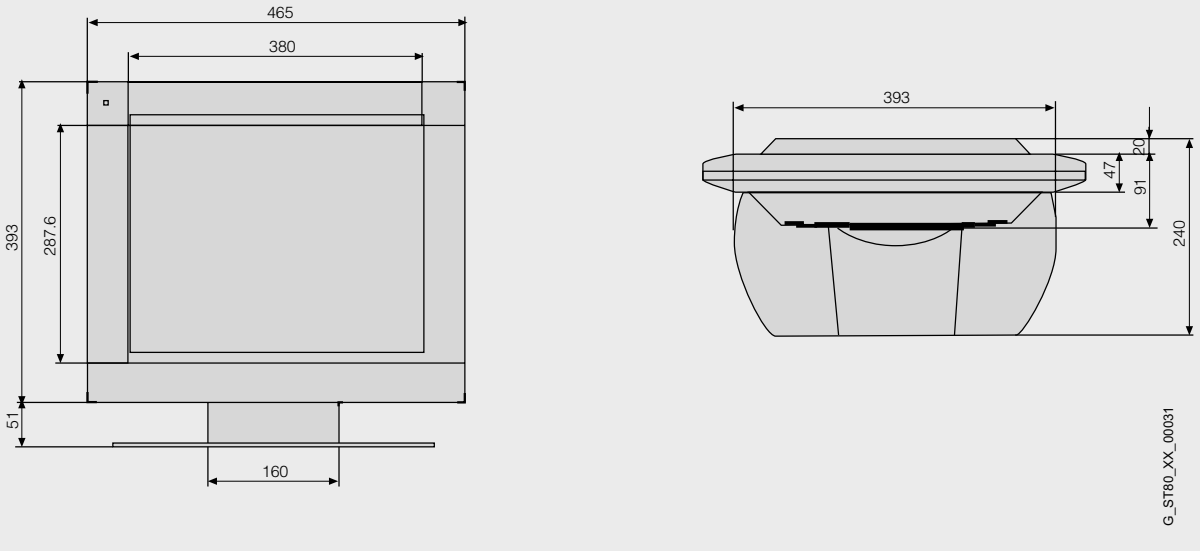
Dimension drawings (continued)

Dimensions in mm



SCD 1997-R/RT

Dimensions in mm



SCD 19101-D

More information

Additional information can be found in the Internet under:

http://www.siemens.com/industrial-lcd

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Training

Training is decisive for your success

SITRAIN – the Siemens Training for Automation and Industrial Solutions – provides you with comprehensive support when solving your tasks.

Training by the market leader in automation, plant installation and support permits you to make your decisions with certainty and full command. Especially where the optimum and efficient use of products and plants are concerned. You can eliminate deficiencies in existing plants, and exclude expensive faulty planning right from the beginning.

All in all, this represents an enormous gain for your company: shortened startup times, optimized plant components, faster troubleshooting, reduced down times. In other words, increased profits and lower costs.

Top trainers

Our trainers know their topics in practice, and possess comprehensive didactic experience. Course developers have a direct wire to product development, and directly pass on their knowledge to the trainers.

Practical experience

The practical experience of our trainers makes it possible for them to pass on theoretical matter in a plausible manner.
But since it is known that all theory is drab, we attach great importance to practical exercises which can comprise up to half of the course time. You can therefore immediately implement your new knowledge in practice. We train you on state-of-the-art methodically/didactically designed training equipment.
You feel absolutely certain when trained in this manner.

Wide variety

With a total of approx. 300 local attendance courses, we train the complete range of A&D products and a large portion of the system solutions from I&S. Telecourses, teach-yourself software and seminars presented on the Web supplement our classical range of courses.

Close to our customers

The distance is short. You can find us at approx. 60 locations in Germany, and worldwide in 62 countries. You wish to have individual training instead of one of our 300 courses? No problem: we will provide a program tailored exactly to your personal requirements. Training can be carried out in our Training Centers or at your company.

The right mixture: blended learning

Blended learning is understood to be the combination of various training media and sequences. For example, a local attendance course in a Training Center can be optimally supplemented by a teach-yourself program as preparation or follow-up. Furthermore, SITRAIN utilizes supported online training for live instruction on the Internet at agreed times.

The right mixture is the solution. Therefore blended learning can convey complex topics well, and train networked thinking. Additional effect: reduced travelling costs and periods of absence through training sequences independent of location and time.

The international training portal

www.siemens.com/sitrain

All training facilities at a glance: search in the worldwide range of courses at leisure, call up all course dates online, utilize the daily updated display of vacant course spaces – and register directly.

Customer comments on Sitrain

" ... the good course documents, competence and flexibility convinced me."
[Manfred Riek from Festo Systemtechnik, responsible for planning basic and further training of project engineers]

" ... represents effective training, constructive dialogs, and solutions which provide great help."
[Günter Niedermaier, electrical design manager at AMT, Aalen]

Contact

Visit us in the Internet at:

www.siemens.com/sitrain

or let us advise you personally. You can request our latest training catalog from:

Course office, Infoline Germany:
Tel.: +49 (1805) 23 56 11 (0.12 €/Min)
Fax: +49 (1805) 23 56 12

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Training offer for SIMATIC HMI

This page contains an overview of the SIMATIC HMI training courses.

Depending on your demands we'll make you fit for specific applications or teach you important background knowledge about products and systems.

All courses contain the largest possible share of practical exercises so that training can be carried out very intensively in very small groups.

Further information regarding course contents, dates and prices can be found in the Internet under:

www.siemens.de/sitrain

SITRAIN courses for SIMATIC HMI

Target Group:
- Decision makers, sales personnel
- Project managers, project assistants
- Programmers
- Startup engineers, configuration engineers
- Service personnel
- Operators, users
- Maintenance personnel

Title	Target Group							Duration/ Medium	Short Title
SIMATIC ProTool/Pro									
SIMATIC ProTool/Pro System Course			✔	✔	✔	✔	✔	3 days	ST-BPROPRS
Operator Panels with Pro Tool - Engineering			✔	✔	✔			3 days	ST-SSP705
SIMATIC ProTool/Pro	✔	✔	✔	✔	✔	✔	✔	CD-ROM	SM-PROTOO
SIMATIC ProTool/Pro	✔	✔	✔	✔	✔	✔	✔	WBT	WT-PROTOO
SIMATIC WinCC flexible									
SIMATIC WinCC flexible, Conversion Workshop	✔	✔	✔	✔	✔	✔	✔	1 day	ST-WCCFWS
SIMATIC WinCC flexible, System Course 1	✔	✔	✔	✔	✔	✔	✔	3 days	ST-WCCFSYS1
SIMATIC WinCC flexible Options			✔	✔	✔			1 day	ST-WCCFO
SIMATIC WinCC flexible	✔	✔	✔	✔	✔	✔	✔	WBT	WT-WCCFLEX
SIMATIC WinCC									
SIMATIC WinCC V6, System Course			✔	✔	✔	✔	✔	5 days	ST-BWINCCS
SIMATIC WinCC V6, Options, Network, Database			✔	✔				5 days	ST-BWINOND
ANSI-C in the SIMATIC World, Introduction		✔	✔	✔	✔		✔	5 days	ST-SIMACE
Visual Basic Script in the field of SIMATIC		✔	✔	✔	✔		✔	3 days	ST-VBSCR

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Standards and approbations

Operating system licenses for SIMATIC PC/PG

The enclosed operating system license is approved only for the installation of the SIMATIC PC/PG supplied.

The Microsoft OEM license allows you to install the software only on this SIMATIC system.

UL (U) and CSA (C) standards

All HMI products comply with the UL (U) and CSA (C) standards or an application for approval has been submitted.

Products, for which there is no approval, are specially marked (see the product ordering data).

CE marking

The electronic products described in this catalog comply with the requirements and protection objectives of the following EU guidelines and with the harmonized European standards (EN) which have been published for programmable controllers in the Official Journal of the European Union:

- 89/336/EWG “Electromagnetic Compatibility” (EMC guideline)
- 73/23/EWG “Electrical Equipment for Use Within Specific Voltage Limits” (low voltage guideline)

The EU conformity declararion is available for examination by the appropriate authorites at:

SIMATIC HMI:
Siemens AG,
Automation and Drives
Dept. A&D AS SM ID
Postfach 4848
90327 Nürnberg
Federal Republic of Germany

SIMATIC, SIMATIC NET, SIMATIC PC:
Siemens AG,
Automation and Drives
Dept. A&D AS RD4
Postfach 1963
92209 Amberg
Federal Republic of Germany

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Siemens contacts worldwide

Overview

At

http://www.siemens.com/automation/partners

you can find details of Siemens contact partners worldwide responsible for particular technologies.

You can obtain in most cases a contact partner for

- Technical Support,
- Spare parts/repairs,
- Service,
- Training,
- Sales or
- Consultation/engineering.

You start by selecting a

- Country,
- Product or
- Sector.

By further specifying the remaining criteria you will find exactly the right contact partner with his/her respective expertise.

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Partner

WinCC Competence Center

The WinCC competence centers are Siemens internal partners. They offer a wide range of products and services geared to ensuring that customers make the best possible use of the openness and integration capability of WinCC in terms of both cost-efficiency and technology.

In addition to developing standard solutions/add-on products, they are authorized to implement customer-specific and vertical solutions in the areas of application development and system integration on the basis of WinCC. Finally, they also offer consulting and project-associated training and workshops for decision-makers and users.

Industry-specific as well as automation and WinCC system expertise guarantee professional and efficient solutions. Needless to say, software development is in accordance with recognized standards on the basis of certified ISO 9001 quality management.

You can find detailed information at:
www.siemens.com/competencecenter

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Siemens Solution Partner Automation and Power Distribution

Overview

Products and systems from Siemens Automation and Drives provide the ideal platform for all automation tasks.

Siemens Solution Partners offer customized future-proof solutions with products and systems from Siemens Automation and Drives. The basis: qualified product and system knowledge coupled with a high degree of solutions and industry-related expertise.

In the Siemens Solution Partner Program you are certain to find the optimum partner for your specific requirements. Since more than 400 companies worldwide belong to the program, you can be sure to get expert support at your location.

The Solution Partner Finder, available to you on the Internet, is a comprehensive database in which all Solution Partners, together with their performance profiles, present themselves.

In addition to the search criteria Technology, Sector and Country, you can also search by Company and ZIP Code. From there it is only a small step to making the first contact.

Call up the Solution Partner Finder as follows:

- CA 01 on CD-ROM:
  On the start page via "Contacts & Partners; Siemens Solution Partner Automation and Power Distribution"
- CA 01 online:
  Go directly to the Solution Partner Finder:
  www.siemens.com/automation/partnerfinder

Additional information about the Siemens Solution Partner Program is available in the Internet at:
www.siemens.com/automation/solutionpartner

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Information and Ordering in the Internet and on CD-ROM

A&D in the WWW

A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

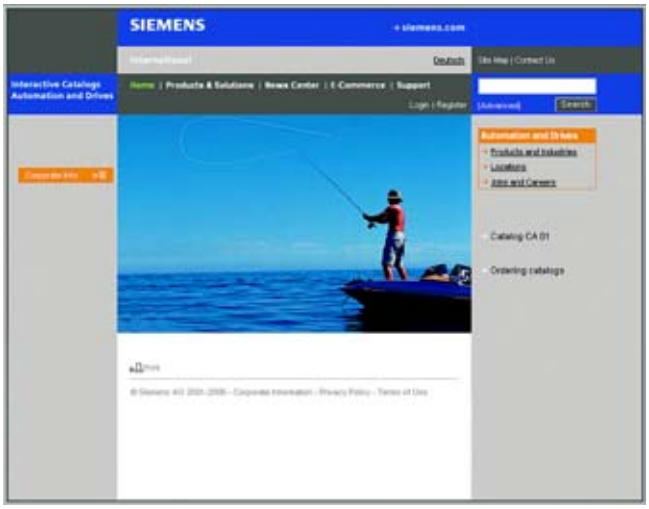
The Siemens Automation and Drives Group (A&D) has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

http://www.siemens.com/automation

you will find everything you need to know about products, systems and services.

Product Selection Using the Offline Mall of Automation and Drives



Detailed information together with convenient interactive functions:
The Offline Mall CA 01 covers more than 80,000 products and thus provides a full summary of the Siemens Automation and Drives product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives.
All information is linked into a user interface which is easy to work with and intuitive.

After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the Offline Mall CA 01 can be found in the Internet under

http://www.siemens.com/automation/ca01

or on CD-ROM or DVD.

Easy Shopping with the A&D Mall

The A&D Mall is the virtual department store of Siemens AG in the Internet. Here you have access to a huge range of products presented in electronic catalogs in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking of the order to be carried out online via the Internet.

Numerous functions are available to support you.

For example, powerful search functions make it easy to find the required products, which can be immediately checked for availability. Customer-specific discounts and preparation of quotes can be carried out online as well as order tracking and tracing.

Please visit the A&D Mall on the Internet under:

http://www.siemens.com/automation/mall

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Our services for every phase of your project

In the face of harsh competition you need optimum conditions to keep ahead all the time:
A strong starting position. A sophisticated strategy and team for the necessary support – in every phase.
Service & Support from Siemens provides this support with a complete range of different services for automation and drives.

In every phase: from planning and startup to maintenance and upgrading.

Our specialists know when and where to act to keep the productivity and cost-effectiveness of your system running in top form.

Online Support

The comprehensive information system available round the clock via Internet ranging from Product Support and Service & Support services to Support Tools in the Shop.

http://www.siemens.com/automation/service&support

Technical Support

Competent consulting in technical questions covering a wide range of customer-oriented services for all our products and systems.

Tel.: +49 (0)180 50 50 222
Fax: +49 (0)180 50 50 223
http://www.siemens.com/automation/support-request

Technical Consulting

Support in the planning and designing of your project from detailed actual-state analysis, target definition and consulting on product and system questions right to the creation of the automation solution. [1)]

Configuration and Software Engineering

Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project. [1)]

Service On Site

With Service On Site we offer services for startup and maintenance, essential for ensuring system availability.

In Germany
0180 50 50 444 [1)]

Repairs and Spare Parts

In the operating phase of a machine or automation system we provide a comprehensive repair and spare parts service ensuring the highest degree of operating safety and reliability.

In Germany
0180 50 50 446 [1)]

Optimization and Upgrading

To enhance productivity and save costs in your project we offer high-quality services in optimization and upgrading. [1)]

1) For country-specific telephone numbers go to our Internet site at: *http://www.siemens.com/automation/service&support*

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Knowledge Base on CD-Rom Automation Value Card

Knowledge Base on CD-ROM

For locations without online connections to the Internet there are excerpts of the free part of the information sources available on CD-ROM (Service & Support Knowledge Base). This CD-ROM contains all the latest product information at the time of production (FAQs, Downloads, Tips and Tricks, Updates) as well as general information on Service and Technical Support.

The CD-ROM also includes a full-text search and our Knowledge Manager for targeted searches for solutions. The CD-ROM will be updated every 4 months.

Just the same as our online offer in the Internet, the Service & Support Knowledge Base on CD comes complete in 5 languages (German, English, French, Italian, Spanish).

You can order the **Service & Support Knowledge Base** CD from your Siemens contact.

Order No. **6ZB5310-0EP30-0BA2**

Orders via the Internet
(with Automation Value Card or credit card) at:

http://www.siemens.com/automation/service&support

in the Shop domain.

Automation Value Card

Small card – great support

The Automation Value Card is an integral component of the comprehensive service concept with which Siemens Automation and Drives will accompany you in each phase of your automation project.

It doesn't matter whether you want just specific services from our Technical Support or want to purchase high-quality Support Tools in our Online Shop, you can always pay with your Automation Value Card. No invoicing, transparent and safe. With your personal card number and associated PIN you can view the state of your account and all transactions at any time.

Services on card. This is how it's done.

Card number and PIN are on the back of the Automation Value Card. When delivered, the PIN is covered by a scratch field, guaranteeing that the full credit is on the card.

By entering the card number and PIN you have full access to the Service & Support services being offered. The charge for the services procured is debited from the credits on your Automation Value Card.

All the services offered are marked in currency-neutral credits, so you can use the Automation Value Card worldwide.

Automation Value Card Order Nos.	
Credits	Order No.
200	**6ES7 997-0BA00-0XA0**
500	**6ES7 997-0BB00-0XA0**
1000	**6ES7 997-0BC00-0XA0**
10000	**6ES7 997-0BG00-0XA0**

Detailed information on the services offered is available on our Internet site at:

http://www.siemens.com/automation/service&support

Service & Support à la Card: Examples

Technical Support	
"Priority"	Priority processing for urgent cases
"24 h"	Availability round the clock
"Extended"	Technical consulting for complex questions
Support Tools in the Support Shop	
"System Utilities"	Tools that can be used directly for configuration, analysis and testing
"Applications"	Complete topic solutions including ready-tested software
"Functions & Samples"	Adaptable blocks for accelerating your developments

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Ordering data	Order No.		Order No.
Phased-out products as of 1.10.2006		***Successor***	
SIMATIC TP 170micro Touch Panel for connection to SIMATIC S7-200, 5.7" STN display	6AV6 640-0CA01-0AX0	**SIMATIC TP 177micro** Touch Panel for connection to SIMATIC S7-200, 5.7" STN display	**6AV6 640-0CA11-0AX0**
SIMATIC OP 3 Operator Panel, 2 lines, 20 characters/line, 18 system keys, with mounting accessories	6AV3 503-1DB10	**SIMATIC OP 73** Operator Panel with 3“ Mono display, w. mounting accessories	**6AV6 641-0AA11-0AX0**
SIMATIC OP 7 PP Operator Panel, 4 lines, 20 characters/line, 22 system keys, with mounting accessories	6AV3 607-1JC00-0AX1	**SIMATIC OP 77A** **SIMATIC OP 77B** Operator Panel with 4.5“ Mono display, w. mounting accessories	**6AV6 641-0BA11-0AX0** **6AV6 641-0CA01-0AX0**
SIMATIC OP 7 DP Operator Panel, 4 lines, 20 characters/line, 22 system keys, with mounting accessories	6AV3 607-1JC20-0AX1	**SIMATIC OP 77A** **SIMATIC OP 77B** Operator Panel with 4.5“ Mono display, w. mounting accessorie	**6AV6 641-0BA11-0AX0** **6AV6 641-0CA01-0AX0**
SIMATIC OP 7 DP12 Operator Panel, 4 lines, 20 characters/line, 22 system keys, with mounting accessories	6AV3 607-1JC30-0AX1	**SIMATIC OP 77A** **SIMATIC OP 77B** Operator Panel with 4.5“ Mono display, w. mounting accessorie	**6AV6 641-0BA11-0AX0** **6AV6 641-0CA01-0AX0**
SIMATIC TD 17 Text Display , 8 lines, 40 characters/line, with mounting accessories	6AV3 017-1NE30-0AX0	**SIMATIC TP 177A** Touch Panel with 5.7“ STN display, Bluemode (4 levels), with mounting accessories	**6AV6 642-0AA11-0AX0**
SIMATIC OP 17 PP Operator Panel, 4 lines with 20 characters/line or 8 lines with 40 characters/line, 22 system keys, with mounting accessories	6AV3 617-1JC00-0AX1	**SIMATIC OP 177B** Operator Panel with 5.7” STN display, with mounting accessories • Bluemode (4 levels) • Color (256 colors)	 **6AV6 642-0DC01-1AX0** **6AV6 642-0DA01-1AX0**
SIMATIC OP 17 DP Operator Panel, 4 lines with 20 characters/line or 8-lines with 40 characters/line, 22 system keys, with mounting accessories	6AV3 617-1JC200-0AX1	**SIMATIC OP 177B** Operator Panel with 5.7” STN display, with mounting accessories • Bluemode (4 levels) • Color (256 colors)	 **6AV6 642-0DC01-1AX0** **6AV6 642-0DA01-1AX0**
SIMATIC OP 17 DP12 Operator Panel, 4 lines with 20 characters/line or 8 lines with 40 characters/line, 22 system keys, with mounting accessories	6AV3 617-1JC30-0AX1	**SIMATIC OP 177B** Operator Panel with 5.7” STN display, with mounting accessories • Bluemode (4 levels) • Color (256 colors)	 **6AV6 642-0DC01-1AX0** **6AV6 642-0DA01-1AX0**
SIMATIC MP 270B 6“ Multi Panel with 6“ Color TFT display, Touch	6AV6 545-0AH10-0AX0	**SIMATIC TP 277 6”**	**6AV6 643-0AA01-1AX0**
18“ SCD Monitors		**SCD Monitor 19“ devices**	
• Built-in units 1897/1898	6AV8 101-2B	• Built-in units 1997	**6AV8 101-3B**
• 19“ Rack units 1897/1898	6AV8 101-2C	• 19“ Rack units 1997	**6AV8 101-3C**
Phased-out products as of 1.04.2007		***Successor***	
SIMATIC TP 070 Touch Panel for connection to SIMATIC S7-200, 5.7“ STN display	6AV6 545-0AA15-2AX0	**SIMATIC TP 177micro** Touch Panel for connection to SIMATIC S7-200, 5.7“ STN display	**6AV6 640-0CA11-0AX0**
SIMATIC TP 170A Touch Panel with 5.7" STN display, Bluemode (4 levels)	6AV6 545-0BA15-2AX0	**SIMATIC TP 177A** Touch Panel with 5.7" STN display, Bluemode (4 levels)	**6AV6 642-0AA11-0AX0**
SIMATIC TP 170B Touch Panel with 5.7” STN display, with mounting accessories		**SIMATIC TP 177B** Touch Panel with5.7” STN display, with mounting accessories	
• Bluemode (4 levels)	6AV6 545-0BB15-2AX0	• Bluemode (4 levels)	**6AV6 642-0BC01-1AX0**
• Color (16 colors)	6AV6 545-0BC15-2AX0	• Color (256 colors)	**6AV6 642-0BA01-1AX0**
SIMATIC OP 170B Operator Panel with 5.7“ STN display, Bluemode (4 levels), with mounting accessories	6AV6 542-0BB15-2AX0	**SIMATIC OP 177B** Operator Panel with 5.7” STN display, Bluemode (4 levels); with mounting accessories	**6AV6 642-0DC01-1AX0**

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Software Licenses

Overview

Software types

Software requiring a license is categorized into types.
The following software types have been defined:

- Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Automation & Drives offers various types of software license:

- Floating license
- Single license
- Rental license
- Trial license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.
A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per device, per axis, per channel, etc.

One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific number of hours (the operating hours do not have to be consecutive).
One license is required for each installation of the software.

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes.
It can be transferred to another license.

Factory license

With the Factory License the user has the right to install and use the software at one permanent establishment only. The permanent establishment is defined by one address only.The number of hardware devices on which the software may be installed results from the order data or the Certificate of License (CoL).

Certificate of license

The Certificate of License (CoL) is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated.
The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.
A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.
The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.
A separate upgrade must be purchased for each original license of the software to be upgraded.

ServicePack

ServicePacks are used to debug existing products.
ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Automation & Drives supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).

Detailed explanations concerning license conditions can be found in the “Terms and Conditions of Siemens AG” or under
http://www.siemens.com/automation/mall
(A&D Mall Online-Help System)

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Appendix
Suggestions for improving the catalog

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